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## **Executive Summary**

### **Purpose and Scope**

Transportation is a critical issue in King County and the surrounding region, affecting quality of life and the economy. Aging roads and bridges, tight budgets, changing communities, and increasing traffic require the Road Services Division to plan facilities and services with exceptional care and efficiency. The King County Comprehensive Plan 2000 calls for the division to develop a new transportation plan that identifies and prioritizes road needs over the next several years. The Roads Strategic Plan is the first step in this process.

This new functional plan focuses on the delivery of road facilities and services. It is consistent with, and expands on, the Comprehensive Plan, providing a bridge between the Comprehensive Plan's high-level policy guidance and the day-to-day practices, procedures, and decision-making of the Road Services Division. It highlights broad transportation goals, targeted strategies, and associated action steps, and will serve as an implementation guide for Comprehensive Plan transportation policies. The plan also articulates the division's regional roles, provides direction for prioritizing road projects, and provides guidance for decisions on spending transportation dollars. The Roads Strategic Plan is intended to be a practical, action-oriented guide for widely varied users, including county staff and management, elected officials, and the public.

The plan's development is the first phase of a two-part effort to update and enhance the division's transportation planning process. In the second phase (taking place in 2003-2004), the plan is guiding the creation of a new project prioritization process and a list of long-term transportation capital needs. The latter will become the county's new Transportation Needs Report, which will continue to fulfill the role of the county's long-term transportation capital facilities plan.

### **Process**

This plan has emerged from a collaborative process and has been shaped by a broad range of informed perspectives. The project team included King County Department of Transportation staff members from the Road Services and Metro Transit divisions and the Office of Regional Transportation Planning. The team's expertise encompasses traffic and capital project engineering, maintenance, finance and budgeting, intergovernmental relations, environmental science, transit speed and reliability, and transportation planning. Other county agencies, including the Sheriff's Office, the former Office of Regional Policy and Planning, the Department of Natural Resources and Parks, and staff from the county's Historic Preservation Program, were consulted on various topics. Project team meetings,

topical working group sessions, conversations with experts, professional research, community advisory group meetings, public events, and a public survey have all contributed to the plan's recommendations. Public involvement was particularly important to the project. A summary of the public outreach process can be found in Appendix A of the plan.

## **Plan Recommendations**

The plan is organized around eight themes derived primarily from the King County Comprehensive Plan and the Road Services Division's business plan. In the plan document, each theme is represented by a general goal statement and followed by a recommended set of strategies and associated actions.

While the division performs numerous activities vital to the functioning of the county's transportation system, the plan focuses only on an important subset of those activities—key functions that the division has identified as needing additional strategic guidance for division operations and/or additional guidance necessary to fully implement the Comprehensive Plan. As a result, the plan does not inventory, or make recommendations related to, all division functions.

The goals and strategic recommendations of the Roads Strategic Plan are summarized below. The themes are not organized in any priority order, and the number of strategies summarized under each theme does not necessarily reflect the topic's relative priority or importance. Topics may have numerous recommendations simply because the issue has never been dealt with comprehensively. Conversely, other important topics are not discussed in this plan because professional manuals or other county documents already provide sufficient guidance.

### **Regional Leadership, Coordination, and Partnership**

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***Goal: Pursue regional leadership, coordination, and partnership to address county-wide transportation challenges.***

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The Road Services Division has two different yet complementary levels of responsibility for addressing transportation needs in King County. In unincorporated areas the division has direct, local responsibility for planning, designing, constructing, operating, and maintaining the public road system, excluding private roads and state highways. Beyond this, the county is one of many jurisdictions, including 39 cities and the Washington State Department of Transportation, that are responsible for various parts of a large, interconnected countywide road system. The division has an important role in helping to create a seamless regional transportation system that serves multi-modal users throughout the county and encourages efficient use of the roadway system. The division pursues regional projects through interlocal cost-sharing agreements and, when regional funding is available, through grants or other sources. The regional strategies and actions in the plan provide focus for these division activities.

*Strategies:*

- Expand participation in existing regional planning, coordination, and decision-making processes.
- Promote a multi-jurisdictional regional corridor approach to planning and projects.
- Lead, promote, and coordinate regional technology initiatives to reduce congestion.
- Coordinate regional use of traffic control centers to optimize use of existing roads.
- Coordinate with other jurisdictions on mutually beneficial programs (e.g., Endangered Species Act response).
- Support freight mobility and incorporate related criteria in project planning, prioritization, and implementation.
- Evaluate and consider addressing unmet regional transportation information needs.
- Minimize traffic disruption during local or regional road project construction.
- Build on contracting relationships between jurisdictions.

## **The Urban And Rural Road System**

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***Goal: Plan, design, build, operate, and maintain the road system consistent with supporting and serving urban growth and preserving rural character as directed by the King County Comprehensive Plan.***

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The King County Comprehensive Plan emphasizes different treatments for urban and rural areas with the objective of directing future growth and services to designated urban areas and protecting rural character. The urban and rural strategies in the Roads Strategic Plan will help the division plan, design, build, operate, and maintain roads in both urban and rural areas of unincorporated King County in a manner consistent with the Comprehensive Plan.

*Strategies:*

- Provide a safe, well-functioning, interconnected arterial road system throughout urban and rural areas.
- Support population density and multi-modal travel in urban areas.
- Coordinate with cities on road needs in potential annexation areas and provide annexation incentives.
- Respond to evolving county transportation needs as unincorporated areas are annexed or incorporate.
- Provide effective rural transportation solutions compatible with limited growth and preservation of rural character.
- Provide road facilities and services that enhance urban and rural communities.
- Communicate with the public about the county's differing approaches to meeting urban and rural transportation needs.

## Congestion Management

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***Goal: Reduce congestion and improve traffic flow.***

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Traffic congestion occurs when the demand for travel exceeds the capacity of the transportation system to accommodate that travel at an acceptable level of service. Congestion results in lost time, wasted energy, reduced productivity, increased traffic accidents and other incidents, increased air and water pollution, and increased frustration for travelers. All of this adds up to reduced mobility and higher costs to the county, the public, and business.

Strategies to relieve traffic congestion should focus on both the supply side and the demand side. Supply-side improvements include providing additional lane miles, improving operational efficiency, and shifting to multi-user travel modes such as bus and carpool. Demand-side improvements would decrease the number and/or length of trips or shift trips to a less congested time of day. Plan strategies provide guidance for both these aspects of congestion management, using a variety of techniques appropriate to unique situations.

### *Strategies:*

- Take a regional, systems approach to congestion management and transportation planning.
- Develop a congestion management system to help identify and prioritize projects.
- Consider intelligent transportation systems and transportation demand management measures before making operational, intersection, or capacity improvements.
- Direct traffic away from local neighborhoods and onto arterials.
- Coordinate systems analysis and planning for congestion management with other county functions such as Comprehensive Plan updates and Concurrency Management Program.

## **Transportation Alternatives—Transit, Transportation Demand Management, High Occupancy Vehicle, Bicycle, Pedestrian, and Equestrian**

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### *Goals:*

- 1. Support transit, high-occupancy vehicle use, and transportation demand management strategies to maximize travel options and manage single-occupancy vehicle use.***
  - 2. Provide bicycle and pedestrian facilities and services that enhance safety and increase mobility options.***
  - 3. Support equestrian travel in equestrian communities designated in the King County Comprehensive Plan, with an emphasis on safety and connection to the regional trail system.***
-

Transportation alternatives include the many modes of travel and related activities beyond single-occupancy vehicle travel. The Road Services Division plays a prominent role in providing facilities and strategies that support transportation alternatives. The division works in concert with King County Metro Transit to support public transportation and demand management efforts. High Occupancy Vehicle, or HOV, facilities on county roads are currently limited, but future long-range regional plans, such as Puget Sound Regional Council's *Destination 2030*, call for King County to play a role in supporting the regional core HOV network.

Bicycle and pedestrian facilities are an increasingly important component of the transportation network. The division has a long history of promoting bicycle travel within King County as an alternative to drive-alone commuting as well as a healthy recreational activity. The transportation alternatives strategies recognize the growing importance of providing mobility options and reducing single-occupancy vehicle travel. In addition, recent King County legislation has formalized the division's role in providing equestrian opportunities along roadways in designated equestrian communities to help preserve rural lifestyles and recreational opportunities.

*Strategies:*

- Coordinate with Metro Transit on capital planning and development, transit signal priority systems, efficiency of transit within key corridors, and transportation demand management measures.
- Provide limited HOV improvements to support the regional core HOV system.
- Develop non-motorized facilities as interconnected networks.
- Design non-motorized facilities to be safe, convenient, well used, and cost effective as guided by local and nationally recognized standards and policies.
- Encourage bicycling and walking as serious means of everyday transportation.
- Facilitate a regional approach to non-motorized facilities and activities.
- Identify critical missing links in the equestrian trail system and provide for equestrian use of the road right-of-way in equestrian communities.
- Retain existing critical equestrian links on division property.
- Ensure that the ideas and concerns of equestrian users are heard by the division.

**Maintenance and Preservation of Infrastructure**

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***Goal: Protect mobility and existing infrastructure investments through maintenance and preservation.***

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Road maintenance and preservation are vital parts of the division's work program. A safe road system, like any capital investment, must be maintained on a regular and timely basis to minimize the life cycle costs and extract the maximum long-term benefit from the investment. A well-maintained road system is crucial to an effective commercial delivery system and to the economic vitality of communities. Roads and bridges left too long without

proper maintenance and timely pavement overlays would need to be rebuilt at a much higher cost.

In addition to the challenges of routine, periodic maintenance and preservation, major storms and other unanticipated events cause disruptions and backlogs. Effective maintenance strategies and actions will help achieve program goals while retaining flexibility to rebalance resources when necessary.

*Strategies:*

- Optimize infrastructure lifecycle and recognize the relationship between maintenance and Capital Improvement Program development.
- Use a maintenance monitoring and reporting system to support budgeting decisions.
- Minimize the deferral of maintenance due to emergency events.
- Use a programmatic bridge maintenance and replacement system to prevent loss of inventory and maintain bridges as a vital part of the road system.

**Roads Safety**

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***Goal: Maintain and improve safety for motorists, pedestrians, bicyclists, and other users of King County roads.***

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Safety on the county's roads is the division's highest priority, consistent with the regional priorities outlined in the Puget Sound Regional Council's *Destination 2030* metropolitan transportation plan and the values voiced by the Roads Strategic Plan community advisory group. While all road projects have safety components, the division also has many specific ongoing road safety efforts and programs. These include response to citizen safety requests, addressing conditions at identified high-accident locations, arterial traffic and safety patrol activities, and neighborhood safety activities and improvements. The following strategies are intended to enhance the already extensive efforts the division employs in support of roads safety by promoting additional oversight of safety-related projects and programs, establishing more uniform guidelines and standards, and specifying where additional efforts would be most effective.

*Strategies:*

- Continue to provide ongoing safety improvements.
- Have a safety management committee oversee and coordinate safety activities.
- Document the division's safety standards and program goals.
- Enhance traffic and roads safety law enforcement programs.
- Use facilities and landscape buffers to enhance non-motorized safety.
- Ensure safety and operational improvements in new developments.
- Keep safety as a primary consideration in all division activities.



## **Transportation Environmental Stewardship**

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***Goal: Plan, build, operate, and maintain the road system in a manner that recognizes stewardship of the natural and human-made environments.***

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While undertaking its core mission to provide efficient and safe transportation facilities, the Road Services Division is committed to complying with all applicable regulations and conducting its business in a manner that is sensitive to and respectful of both the natural environment and the archaeological, historical, and other cultural resources of King County. The division reviews capital improvement projects and maintenance activities for their effect on the environment in compliance with the State Environmental Policy Act and National Environmental Policy Act, and in association with various permit applications.

The environmental stewardship strategies in the Roads Strategic Plan provide additional tools for meeting current and future regulatory requirements and enhance the division's ability to achieve its transportation goals. This is particularly important at a time when federal, state, and local environmental and cultural resource regulations are becoming more complex, the effects of the Endangered Species Act on providing road services remain uncertain, and King County residents continue to voice their desire for a quality environment.

### *Strategies:*

- Proactively plan for the environment to improve project selection, better assess costs and regulatory complexity, and reduce adverse effects on the environment.
- Demonstrate leadership in environmental stewardship consistent with the division's transportation mission.
- Improve the effectiveness and efficiency of environmental mitigation efforts.
- Ensure consistent and comprehensive environmental compliance.
- Inventory and assess cultural resources to reduce regulatory conflicts and improve road project predictability.
- Protect cultural resources on division property or in areas affected by division activities to the maximum practicable extent.
- Define "historic character" to better guide road development and maintenance in historic areas.

## **Roads Funding Strategies**

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***Goal: Ensure efficient and cost-effective allocation of resources.***

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Revenue available for transportation improvements has been declining in recent years due to annexations, incorporations, and voter initiative tax limits. At the same time, costs for many transportation improvements have increased due to development constraints and environmental considerations and requirements. The division has met these financial challenges by improving efficiency. Budget innovations, such as Capital Improvement

Program flexible budgeting and the issuance of road construction bonds, have helped maximize the active use of available revenues. Future budgeting decisions will likely become increasingly difficult unless new and predictable sources of funding are found. The funding chapter of the Road Services Plan includes strategies and actions designed to maximize efficient use of resources and, where possible, secure additional revenues.

*Strategies:*

- Maximize efficiencies before seeking new revenue sources.
- Seek additional sources of revenue to meet program goals if efficiencies are not sufficient.
- Consider transportation as well as secondary benefits (e.g., environmental or community enhancement) when prioritizing projects.
- Provide flexibility to adjust funding priorities in response to changing circumstances.
- Communicate with the public about capital project status and conditions that affect the selection, timing, and completion of projects.
- Consider operating and Capital Improvement programs together as one overall roads program when setting funding priorities.

## **Conclusions**

The division's business involves a complex balancing act. The county has many high-priority transportation needs and legally mandated responsibilities. Financial resources are limited and must be used to get the biggest "bang for the buck" in terms of service to the public. Legal, regulatory, and other constraints must be anticipated and negotiated when building and maintaining road facilities. The agency attempts to maintain a balanced program within the context of these pressures and to make proactive, well-informed decisions when faced with difficult choices. In essence, Road Services must stay nimble to remain effective and ahead of the curve.

The Roads Strategic Plan expands on and complements the county's Comprehensive Plan by providing new strategic guidance for spending transportation dollars on projects and services to meet the needs of residents, businesses, and other road users. The Road Services Division should approach implementation of the Roads Strategic Plan through the following mechanisms:

- Use the plan to guide revision of the Transportation Needs Report process and creation of a new long-term transportation capital needs plan.
- Implement the plan's strategies and actions in a timely and effective manner through targeted work programs and regular monitoring and reporting of progress.
- Keep the plan current by re-evaluating it at least every four years and updating it to respond to changing circumstances and needs.

The goals, strategies, and actions in the plan, together with the new Transportation Needs Report under development, will prepare the Road Services Division to meet the transportation challenges of today and tomorrow.



# **I. Introduction to the Roads Strategic Plan**



# **Chapter 1**

## **Context**

### **Today's road challenges**

Transportation is a critical issue in King County and the surrounding region, affecting quality of life and the environment. Aging roads and bridges, tight budgets, changing communities, and increasing traffic require the Road Services Division to plan facilities and services with exceptional care and efficiency. The King County Comprehensive Plan 2000 calls for the division to develop a new transportation plan that identifies and prioritizes road-related needs over the next several years. The Roads Strategic Plan is the first step in this process.

Maintaining, preserving, and improving King County's roads is increasingly challenging because:

- Traffic congestion has reached critical proportions in many areas;
- Roads and bridges are aging and need substantial maintenance or replacement;
- Older infrastructure may not meet today's standards or take advantage of technology improvements;
- Many communities need safety upgrades such as sidewalks;
- Road projects may cost more and take longer to complete today because of commitments to protect the environment and respond to neighborhood concerns;
- Acquisition of right-of-way for road improvements has become increasingly difficult and expensive due to growth, development, and rising land values.

The division's business involves a complex balancing act. The county has many high-priority transportation needs and legally mandated responsibilities. Financial resources are limited and must be used to get the biggest "bang for the buck" in terms of service to the public. Legal, regulatory, and other constraints must be anticipated and negotiated when building and maintaining road facilities. The agency attempts to maintain a balanced program within the context of these pressures and to make proactive, well-informed decisions when faced with difficult choices. In essence, Road Services must stay nimble to remain effective and ahead of the curve.

The Roads Strategic Plan expands on and complements the county's Comprehensive Plan by providing new strategic guidance for spending transportation dollars on projects and services to meet the needs of residents, businesses, and other road users. The goals, strategies, and

actions in this plan, together with the new Transportation Needs Report<sup>1</sup> under development, will prepare King County to meet the transportation challenges of today and tomorrow.

## **Growing communities and changing circumstances**

The Road Services Division must meet the transportation needs of a large and diverse service area. King County is now home to more than 1.7 million people—approximately 15 percent more than in 1990. About 350,000 of them live in unincorporated King County, where the Road Services Division has direct responsibility. The unincorporated area is defined as land within the boundaries of King County, but not within any incorporated city, as shown in Map 1 (located in the Maps section, before Chapter 1).

The King County Comprehensive Plan designates an “urban growth area”, where most growth and development forecasted for King County will be accommodated, and a “rural area”, where rural character, uses, activities, and lifestyles are to be preserved. The boundary between these urban and rural areas is indicated in Map 2 (see Maps section, before Chapter 1). Urban and rural communities require different types and levels of transportation services.

The county’s road responsibilities are complicated by the incorporation of ten new cities since 1990 and the ongoing annexation of property into existing cities. The result is a road network under the care of many different jurisdictions, as shown in Map 3 (see Maps, before Chapter 1). For example, the road one resident takes to work, school, or shopping may start out as a county road, pass through one or more adjacent cities where it becomes the responsibility of that city’s road department, and possibly even connect with a state highway where it typically becomes the responsibility of the Washington State Department of Transportation.

This fragmented pattern of road responsibility is common throughout the county, making it vital for the division to work closely with other jurisdictions to develop coordinated regional transportation solutions.

## **King County’s road system**

King County is the largest metropolitan county in the state of Washington in terms of population, number of cities, and employment. It is the twelfth most populous county in the United States. The total land area of the county is 2,134 square miles, 381 of which are contained within 39 cities, leaving 1,753 square miles in unincorporated areas (source: 2002 King County Annual Growth Report).

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<sup>1</sup> The Transportation Needs Report has served, with regular updating, as King County’s long-term transportation capital needs plan since 1989.



Most travel in the county involves movement through a system of interconnected road networks that include interstate highways, state highways, arterials, and local, private, and other roads. The county's many bridges are integral parts of the roads that traverse them, and the road system also includes transportation infrastructure such as sidewalks, bike lanes, pathways, guardrails, drainage and water quality facilities, traffic control equipment, and traffic cameras.

Functional classification categorizes roads according to the type of service they are intended to provide. This helps define the part that any individual road will play in serving the flow of traffic throughout the road system. The main functions for a road are 1) mobility, or the movement of people and goods, and 2) access to adjacent land. The degree to which the road serves these functions is the basis of its functional classification. For example, local neighborhood roads are designed for relatively light traffic, typically traveling at low speeds, with plenty of access to residences. Collector arterials channel neighborhood traffic to and from major and minor arterial networks. Major and minor arterial roads emphasize efficient movement of traffic at higher speeds with less access to adjacent properties. Freeways move an even larger volume of traffic, have very limited access to adjacent land, and are designed to serve longer-distance trips.

The majority of paved arterial and local roads in unincorporated King County are the responsibility of the Road Services Division, although interstate highways (such as Interstate 5, Interstate 405, and Interstate 90), state highways (such as Highway 99, State Route 169, and State Route 202), and certain other types of roads, such as private or logging roads, are the responsibility of other agencies or property owners.

The unincorporated area road system owned and managed by Road Services includes the following features (numbers are approximate):

- 1,790 miles of paved roads
- 60 miles of unpaved roads
- 180 bridges, plus several that are jointly owned with cities
- 45,000 traffic control signs and markings (e.g., crosswalks, stop bars, arrows)
- 200 traffic signals

The road miles include approximately 390 miles of arterial roads and 1460 miles of local access roads.

Increasing congestion and limited financial resources make it vital for the division to coax maximum efficiency out of existing transportation infrastructure. Road system use must be actively managed to make traffic movement as efficient as possible while preserving safety and other important values. This is accomplished through a variety of planning and engineering tools, including capturing and interpreting data accurately to plan most effectively for future needs; maximizing traffic flow using signal timing, turn lanes, and computerized traffic control systems; providing real-time travel information to the public via

traffic cameras and Web pages; and building a traffic control center to focus key traffic control functions, including incident/accident response, in one central location.

## The King County Road Services Division

Road Services is one of four divisions in the King County Department of Transportation, the others being Metro Transit, Airport (the King County International Airport or “Boeing Field”), and Fleet Administration. The director’s office provides regional planning, grants, communications, community relations, public affairs, administrative, and other support to the department and its divisions. Division directors, including the director of Road Services, report to the director of the Department of Transportation, who in turn reports to the King County Executive, the elected executive officer of county government. The Metropolitan King County Council, the legislative branch of county government, adopts laws, sets policies, and holds final approval over the budget.

The Road Services Division plans, designs, builds, operates, and maintains the roads, bridges, pathways, traffic control systems, and other road-related infrastructure in unincorporated King County. In addition, the division services approximately 760 miles of roads in other jurisdictions through contracts with cities, including Burien, Covington, Federal Way, Kenmore, Lake Forest Park, Maple Valley, Newcastle, Sammamish, SeaTac, Shoreline, and Woodinville. The division strives to make the county’s transportation system safe and efficient for all uses and modes of travel, and operate in accordance with the following vision and mission:

### **Vision:**

*To be a leader, partner, and provider of regional and local transportation services; to have a significant role on regional transportation policy; and to be an organization employees are proud to work for.*

### **Mission:**

*To identify and implement roadway and other related transportation system solutions for the safe and efficient movement of goods, services, and people to support a high quality of life in King County.*

Safety is the division’s central focus and a primary factor in all decisions and activities. The division is also committed to providing timely, cost-effective service and environmentally responsible road design, construction, and maintenance. Recent accomplishments help illustrate this commitment. New financing practices have been put in place to accelerate the provision of much-needed road improvements. A record year for the division’s capital program, 2002 saw the completion of more than \$70 million worth of road project activities, such as design, right-of-way acquisition, and construction, to provide the public in King County with safer and more efficient roads. A program of new, environmentally sound road

maintenance practices was created to help the county and other jurisdictions meet the strict requirements of the Endangered Species Act. Approximately 16,000 feet of guardrail, five new traffic signals, ten new flashers, and 460 miles of lane striping were added to the road system to increase public safety, and five new traffic cameras were installed to provide better information to travelers. The Road Services Division is making substantial progress towards accomplishing its mission, and the Roads Strategic Plan is intended to help the division build on that success.

The division's activities are broad and complex. Some functions and services are legally mandated, while others have been developed in response to historic needs or community requests. The core functions and services provided by the division are described below.

**Capital Improvement Program (CIP)** — Identify, program, design, and construct a variety of roadway, bridge, and non-motorized projects. These include intersection and traffic flow improvements, safety improvements, capacity improvements, non-motorized improvements (e.g., bicycle lanes and sidewalks), and infrastructure preservation, as well as environmental analysis, permitting, and mitigation pertaining to roadways, bridges, and drainage. In addition to specific safety-related projects, safety elements are incorporated into all relevant Capital Improvement Program projects as needed.

**Engineering technical support** — In-house services that support the Capital Improvement Program including, but not limited to, environmental science and engineering, field surveying, materials lab analysis, computer-aided drafting design and mapping, and record management and archival support.

**Maintenance** — Regular ongoing maintenance, preservation, and repair to provide a safe road system and preserve the life of the county's transportation infrastructure. Includes major and minor repair of roads, bridges, guardrails, traffic signals, and signs; pothole patching; vegetation management; street sweeping; and culvert cleaning.

**Emergency preparedness and response** — Prepare for and respond to natural and man-made disasters affecting the safety and usability of bridges and roads. Includes removal of snow, ice, and downed trees; landslide cleanup; flood response; and emergency road repair.

**Traffic operations** — Includes collection and analysis of traffic count and accident data; operation of traffic control systems; design, installation and maintenance of safety improvements including signals, guardrails, signs, and pavement markings; review of the traffic impact of development; and identification and implementation of neighborhood safety improvements.

**Transportation planning** — Includes travel demand forecasting; development of a long-term transportation facilities plan; roadway classification; concurrency and mitigation payment system management; non-motorized (i.e., pedestrian, bicycle and equestrian) use planning; corridor studies and other transportation analyses; and road-related policy development for King County.

**Community involvement and public information and response** — Includes operation of a 24-hour public help line; handling of public inquiries and complaints; preservation and maintenance of road records and maps, and making them available to the public; and keeping the public informed about major construction projects, road or bridge closures and repairs, and other road services and activities.

**Administration** — Administrative functions that help support the overall work of the division, including finance and budgeting, intergovernmental services and contracting, information technology management, human resources management, and employee development and recognition.

The division is organized into five work sections: Capital Improvement Program and Planning, Engineering Services, Traffic Engineering, Maintenance, and Administration.

## Planning context

The goals, strategies, and actions in this plan are shaped by, and consistent with, the policies of the Growth Management Act, the Puget Sound Regional Council's *Destination 2030* metropolitan transportation plan, the King County Countywide Planning Policies, and the King County Comprehensive Plan (see descriptions below). The Roads Strategic Plan augments and helps implement these policies and provides additional guidance for future versions of the Transportation Needs Report and the division's 6-Year Roads Capital Improvement Program.

### Growth Management Act

Passed in 1990, this state act calls for urban counties and cities in Washington to develop comprehensive plans to guide growth management decisions, including those affecting the character and location of new transportation facilities. Amendments to the Act in 1991 require counties, working with the cities inside their boundaries, to develop countywide planning policies that provide a common vision of the future and serve as the framework for all comprehensive plans throughout the county.

### Destination 2030

This 30-year transportation plan for growth in King, Pierce, Snohomish, and Kitsap Counties was developed by the Puget Sound Regional Council, the federally recognized metropolitan planning organization for the four-county region, to support the Growth Management Act and identify strategies to address traffic congestion throughout the region. Over the life of the plan the region's population is expected to grow by 1.5 million persons. Employment forecasts predict the addition of more than 800,000 new jobs, and vehicular traffic is expected to increase by 60 percent. *Destination 2030* provides a vision of what facilities and programs will be needed to keep the region mobile over this period.

## **King County Countywide Planning Policies**

These policies set the framework for the county and cities' Growth Management Act comprehensive plans. Adopted by the county and cities in 1992, the policies established an Urban Growth Area within the western third of King County where most growth and development is targeted. The goals of the policies include reducing urban sprawl, protecting rural areas, providing affordable housing throughout the county, and coordinating protection of environmentally sensitive areas.

## **The King County Comprehensive Plan**

This document contains general guiding policies for all land use and development in unincorporated King County; for local services such as road improvements and maintenance, surface water management, and environmental protection in unincorporated areas; and for regional services throughout the county including transit, sewers, parks, trails, and open space. It provides the policy foundation for the activities of the Road Services Division. The transportation element of the Comprehensive Plan is of particular importance to the division's activities, although other chapters are also influential.

## **The Transportation Needs Report**

Part of the transportation element of the Comprehensive Plan, this report has, with regular updating, served as the county's long-term transportation capital facilities plan since 1989. It identifies the transportation facilities needed to accommodate current traffic and meet future travel demand within the 20-year planning horizon of the Comprehensive Plan. This report is currently being evaluated and revised in conjunction with the development of the Roads Strategic Plan to improve its value as a planning tool and to better reflect the changing transportation needs of King County.

## **The 6-Year Roads Capital Improvement Program**

This 6-year program of road improvement projects, intended to provide the public with safe, efficient, and environmentally sound transportation facilities, is developed to be consistent with the county's land use plans and policies and to address identified transportation needs. The Transportation Needs Report (see above) and the division's Bridge Priority Process, a listing of important future bridge capital projects, contribute most of the project input to this program. The division's safety programs may also identify projects that become part of this program.

## **Road services vision, mission and goals**

The Road Services Division has established vision, mission, and goal statements for business planning purposes. In conjunction with the plans and related activities noted above, these provide important direction for all division activities.

## **Road fund and road construction fund financial plans**

Decisions regarding funding of the division's programs, services, and other budgetary priorities are made within the financial constraints identified in the two major funds' financial plans, which are prepared annually and cover a six-year planning horizon. Revenue and fund balance "reserve" projections are identified by these plans to determine the appropriate budgets for programs, services and projects for the current fiscal year (the calendar year for King County) and the next five years. The financial plans provide for reasonable reserves to remain in the fund balance to cover changes in the assumptions that support revenue and expenditure projections, and to accommodate cash flow requirements. Annual budgets are developed based on the resource requirements identified in the financial plans

## **Other plans and programs**

Other plans and planning activities that are relevant to the work of the Road Services Division include the Transportation Concurrency Management Program, the Mitigation Payment System, non-motorized planning program, and various corridor and other transportation studies. Based on the requirements of the GMA, the Transportation Concurrency Management Program establishes a process to manage new development based on development impacts on traffic levels-of-service. Concurrency Management ensures that needed improvements or actions are undertaken concurrent with new growth. The Mitigation Payment System establishes a requirement that new growth and development pay a proportionate share of the cost of supporting needed transportation improvements. The division supports non-motorized uses by planning for non-motorized transportation modes, including bicycle, pedestrian, and equestrian. A variety of other transportation studies are conducted in relation to specific travel corridors.

## **Chapter 2**

### **Overview**

#### **Background**

As described in the previous chapter, the King County Comprehensive Plan is the primary policy document that guides the county's land use, growth management, transportation, and other important decisions. The Roads Strategic Plan is a new functional plan<sup>2</sup> that is consistent with, and expands on, the Comprehensive Plan. It provides a bridge between the Comprehensive Plan's high-level policy guidance and the Road Services Division's day-to-day practices, procedures, and decision-making. It identifies broad transportation goals, derived primarily from the Comprehensive Plan and the division's business plan; targeted strategies; and associated actions, and it also serves as an implementation guide for Comprehensive Plan transportation policies.

The new plan also helps articulate the division's regional roles, provides direction for prioritizing road projects, and provides guidance for making decisions about how to spend transportation dollars. While the plan contains important guidance for the business of Road Services, it is not a master plan for the transportation system. The Roads Strategic Plan is intended to be a practical, action-oriented guide that is widely utilized by a variety of audiences, including county staff, management, and elected officials, and the public.

The plan's development is the first phase of a two-part effort to update and enhance the division's transportation planning processes. In the second phase (taking place in 2003-2004), the plan is guiding the creation of a new project prioritization process and a list of long-term transportation capital needs. The latter will become the county's new Transportation Needs Report, which will continue to fulfill the role of the county's long-term transportation capital facilities plan.

The Roads Strategic Plan was developed through a collaborative process and has been shaped by a broad range of informed perspectives. The project team included King County Department of Transportation staff members from the Road Services Division, Metro Transit, and the Office of Regional Transportation Planning. The team's expertise encompasses traffic and capital project engineering, maintenance, finance and budgeting, intergovernmental relations, environmental science, transit speed and reliability, and transportation planning. Other county agencies, including the Sheriff's Office, the former Office of Regional Policy and Planning, the Department of Natural Resources and Parks, and staff from the county's Historic Preservation Program were consulted on various topics. Project team meetings, topical working group sessions, conversations with experts,

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<sup>2</sup> Functional plans focus on the delivery of services or facilities.

professional research, community advisory group meetings, public events, and a public survey have all contributed to the content of the plan's recommendations. Public involvement was particularly important to the project; for a summary of the public outreach process, see Appendix A (page A-1).

## **Content and organization**

The plan is organized around the following eight themes, which were derived primarily from the King County Comprehensive Plan and the division's business plan:

- Regional Leadership, Coordination, and Partnership
- The Urban and Rural Road System
- Congestion Management
- Transportation Alternatives (Transit, Transportation Demand Management, High-Occupancy Vehicle, Bicycle, Pedestrian, Equestrian)
- Maintenance and Preservation of Infrastructure
- Roads Safety
- Transportation Environmental Stewardship
- Roads Funding Strategies

While the division performs many activities vital to the functioning of the county's transportation system, this plan focuses only on an important subset: key functions that the division has identified as needing additional strategic guidance for division operations and/or additional guidance to fully implement the Comprehensive Plan. As a result, the plan does not inventory, or make recommendations related to, all division functions.

The topical chapters in the Roads Strategic Plan are summarized below. The topics are not organized in any priority order, nor do the number of strategies and actions in each chapter necessarily reflect the topic's relative priority or importance. Topics may have many recommendations simply because the issue has never been dealt with comprehensively. Conversely, some important topics are not discussed in this plan because other county documents or professional manuals already provide sufficient guidance.

### **Regional leadership, coordination, and partnership**

The Road Services Division has two different yet complementary levels of responsibility for addressing transportation needs in King County. In unincorporated areas the division has direct, local responsibility for planning, designing, constructing, operating, and maintaining the public road system, excluding private roads and state highways. Beyond this, the county is one of many jurisdictions, including 39 cities and the Washington State Department of Transportation, that are responsible for various parts of a large, interconnected countywide road system. The division has an important role in helping to create a seamless regional transportation system that serves multi-modal users throughout the county and encourages efficient use of the roadway system. The division pursues regional projects through interlocal



cost-sharing agreements and, when regional funding is available, through grants or other sources. The regional strategies and actions in the plan provide focus for these division activities.

### **The urban and rural road system**

The county's Comprehensive Plan emphasizes different treatments for urban and rural areas with the objective of directing future growth and services to designated urban areas and protecting rural character. The urban and rural road system strategies in the Roads Strategic Plan will help the division plan, design, build, operate, and maintain roads in both urban and rural areas of unincorporated King County in a manner consistent with the differing needs and service levels of these areas, as intended by the Comprehensive Plan.

### **Congestion management**

Traffic congestion occurs when the demand for travel exceeds the capacity of the transportation system to accommodate that travel at an acceptable level of service. Congestion results in lost time, wasted energy, reduced productivity, increased traffic accidents and other incidents, increased air and water pollution, and increased traveler frustration. All of this adds up to reduced mobility and higher costs to the county, the public, and business.

Strategies to relieve traffic congestion need to focus both on the supply side and on the demand side. Supply side measures include providing additional lane miles, improving operational efficiencies, and shifting to alternate travel modes such as bus and carpool. Demand side measures would decrease the number of trips, shorten trip length, or shift trips to a less congested time of day. Strategies in this plan provide guidance for both these aspects of congestion management using a variety of techniques that are appropriate to unique situations.

### **Transportation alternatives—transit, transportation demand management, high occupancy vehicle, bicycle, pedestrian, and equestrian**

Transportation alternatives include the many modes of travel available beyond single-occupancy vehicles. The division provides facilities and strategies that support alternative modes of transportation, working in concert with King County Metro Transit to support public transportation and efforts to manage demand. High-Occupancy Vehicle (HOV) facilities on county roads are currently limited, but long-range regional plans, such as Puget Sound Regional Council's *Destination 2030*, call for King County to play a role in supporting a regional HOV network.

Bicycle and pedestrian facilities are increasingly important components of the transportation network. The division has a long history of promoting bicycle travel in King County as an alternative to drive-alone commuting as well as a healthy recreational activity. The transportation alternatives strategies in this plan were crafted in recognition of the growing

importance of providing mobility options and reducing demand for single-occupancy vehicle travel. In addition, recent King County legislation has formalized the division's role in providing equestrian opportunities along roads in designated equestrian communities to help preserve rural lifestyles and recreational opportunities.

### **Maintenance and preservation of infrastructure**

Planning and managing road maintenance is a vital part of the division's work. A safe road system, like any capital investment, must be maintained on a regular and timely basis to minimize life cycle costs and extract the maximum long-term benefit from the investment. A well-maintained road system is crucial to an effective commercial delivery system and to the economic vitality of communities. Roads and bridges left too long without proper maintenance and timely overlays would need to be completely rebuilt at a much higher cost.

In addition to routine maintenance, the division must handle the effects of major storms and other unanticipated events, which can cause disruptions and backlogs. Effective maintenance strategies and actions will help the division achieve program goals while retaining flexibility to rebalance resources when necessary.

### **Roads safety**

Safety on the county's roads is the division's highest priority, consistent with the regional priorities outlined in the Puget Sound Regional Council's *Destination 2030* plan and the values voiced by the Roads Strategic Plan community advisory group. All road projects have safety components, and the division also has many specific ongoing road safety-related efforts and programs. These include responses to citizen safety requests, addressing conditions at identified high-accident locations, arterial traffic and safety patrol activities, and neighborhood safety activities and improvements. The roads safety strategies are intended to enhance the division's already extensive efforts to promote roads safety. The strategies promote additional oversight of safety-related projects and programs, establish more uniform guidelines and standards, and specify where additional efforts would be most effective.

### **Environmental stewardship**

While undertaking its core mission to provide efficient and safe transportation facilities, the division is committed to complying with all applicable regulations and conducting its business in a manner that is sensitive to, and respectful of, both the natural environment and the archaeological, historical, and other cultural resources of King County. The division currently reviews capital improvement projects and maintenance activities for their effect on the environment in compliance with the State Environmental Policy Act, the National Environmental Policy Act, and various permitting requirements.

The environmental stewardship strategies in the Roads Strategic Plan will provide additional tools for meeting current and future regulatory requirements and will enhance the division's

ability to achieve its transportation goals. This is particularly important at a time when federal, state, and local environmental and cultural resource regulations are becoming more complex, the effects of the Endangered Species Act on providing road services remain uncertain, and King County residents continue to voice their desire for a quality environment.

### **Roads funding strategies**

Revenue available for transportation improvements has been declining in recent years due to annexations, incorporations, and voter-initiated limits on taxes. At the same time, costs for many transportation improvements have increased due to development constraints and additional environmental considerations and requirements. The division has met these financial challenges by improving efficiency. Use of recent budget innovations such as Roads CIP Flexible Budgeting and the issuance of Road Construction Bonds have helped maximize the use of available revenues. Future budgeting decisions will likely become increasingly difficult unless new and predictable sources of funding are found. The financial chapter includes strategies and actions designed to maximize efficient use of resources and encourage consideration of ways to secure additional revenues.

### **Plan implementation**

The Next Steps section of the Roads Strategic Plan provides a framework for the implementation of the plan. In summary, implementation will be approached through three strategies:

- Use the guidance of the Roads Strategic Plan to revise the Transportation Needs Report process and create a new long-term transportation capital needs plan.
- Implement the plan's strategies and actions in a timely and effective manner through targeted work programs, and regularly monitor and report on progress.
- Keep the plan up-to-date by reevaluating it at least every four years and updating it to respond to changing circumstances and needs.

The process of creating a new Transportation Needs Report is underway as the Roads Strategic Plan is being completed, and will provide an enhanced project review and prioritization process, report format, and long-term transportation needs list.

Implementation of the Roads Strategic Plan strategies and actions will begin in 2004. An implementation work program will be developed in cooperation with the division's sections and undertaken along with the division's ongoing work. The work program will assign priorities and timelines to the plan's recommendations. Implementation will take place via several mechanisms, including changes to division procedures and practices as well as new initiatives incorporated into the division's annual work program and budget.

The Roads Strategic Plan is intended to be updated on a regular basis. This will ensure that the division has an opportunity to evaluate the plan's successes and shortfalls, identify and track evolving issues, adapt to changing conditions, and seize emerging opportunities.

## **Chapter 3**

# **Financing King County's Road System**

### **Financial management**

The Road Services Division's financial management involves the planning, budgeting, and accounting of dollars needed for the division's operating programs and Capital Improvement Program (CIP). The division manages the operating and CIP budgets in two principal funds: the Road Fund (operating and CIP revenue transfer) and the Road Construction Fund (CIP).

### **Financial planning**

Six-year financial plans are prepared for both funds each year. These plans project revenue and reserves to determine appropriate budgets for programs, services, and projects for the current fiscal year (the calendar year for King County) and the next five years. The plans allow for reserves in the fund balances to cover unforeseen changes in revenue or expenditures and to accommodate cash flow requirements. Annual budgets are based on the resources identified in the financial plans.

### **Annual budget process**

The division prepares operating and CIP budget requests each year in early summer. These requests are then reviewed by the King County Budget Office, approved by the County Executive, and transmitted by him to the County Council, which finalizes the budget by adopting an annual budget ordinance and associated fee ordinances. The budget ordinance authorizes an overall level of spending and staffing for the upcoming year for all county organizations.

The council authorizes appropriations for the Road Services Division each year by about the third week of November for the following "appropriation units":

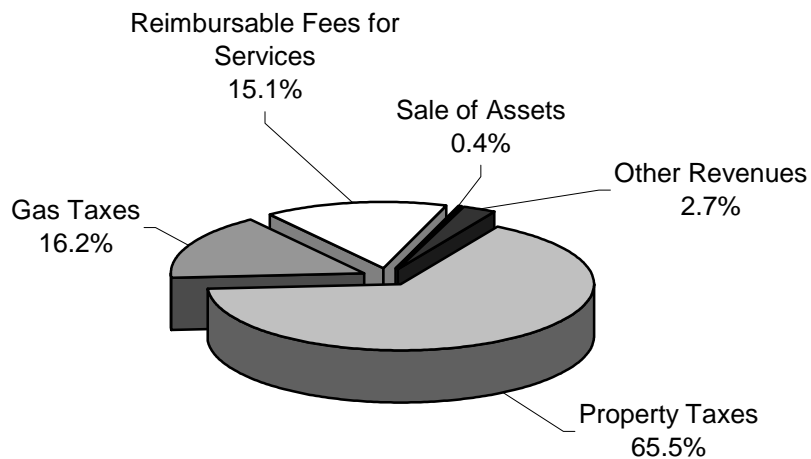
<b>Appropriation Unit/ 2003 Budget Authority</b>	<b>Fund</b>	<b>Purpose</b>
Roads Operating Budget <b>\$60,779,590</b>	Road Fund	Road and traffic maintenance and operations, reimbursable city contract services budget, general roadway engineering not billed directly to CIP projects, transportation planning, and administration.
Regional Stormwater Disposal Program <b>\$524,449</b>	Road Fund	Regional stormwater disposal program serving cities, WSDOT, and private vendors.
Roads Construction Transfer <b>\$27,138,424</b>	Road Fund	Authorizes transfer of Road Fund revenues to the CIP.
Roads Capital Improvement Program <b>\$82,977,000</b>	Road Construction Fund	CIP project budgets, preliminary engineering, design, right-of-way acquisition, construction, project management, and debt service.

**Table 1: Appropriation units in the Road Services Division**

## **Road Fund revenues and budget**

The Road Fund receives revenues from the unincorporated area property tax levy, gasoline taxes, fees from reimbursable contract services, sale of assets such as land, sand, and gravel, and other sources such as state, private, and federal timber sales, property rentals, interest earnings, and sale of publications. Grant revenues are generally not a significant part of the Road Fund financial plan, with the occasional exception of grants from the Federal Emergency Management Agency (FEMA) and the Federal Highway Administration (FHWA) in response to storm emergencies and disasters. Grant funding is a more important component of the Road Construction Fund, where it enables the division to leverage its base CIP dollars to accomplish far more projects than would otherwise be possible.

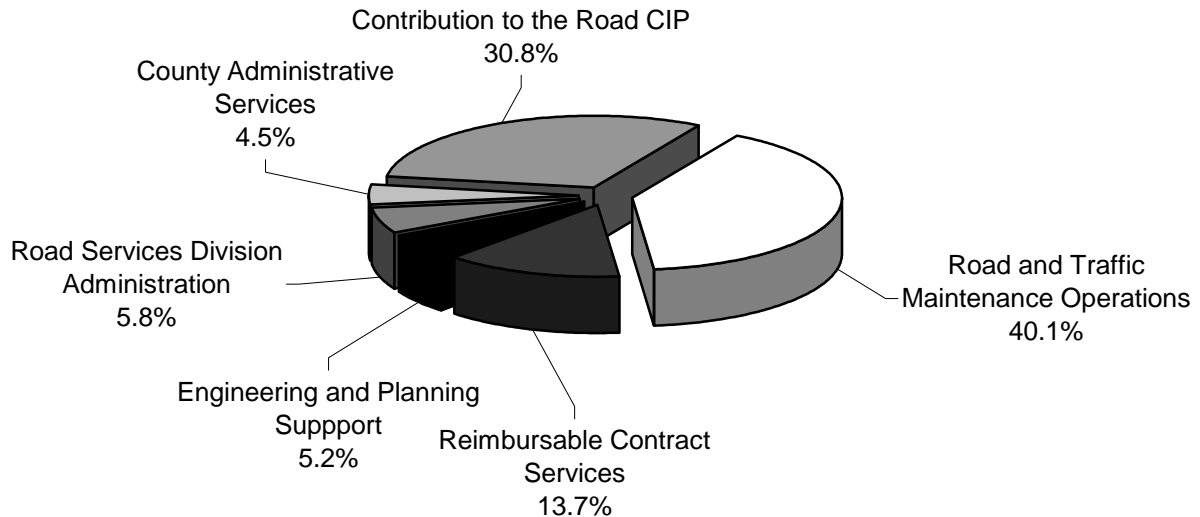
Road Fund revenues in 2003 are projected to be about \$89 million, collected from the funding sources shown in Figure 1 (see page 17).



**Figure 1: Projected 2003 revenue sources for the Road Fund**

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Road Fund revenues in 2003 will be spent in six core business areas, as shown in Figure 2.



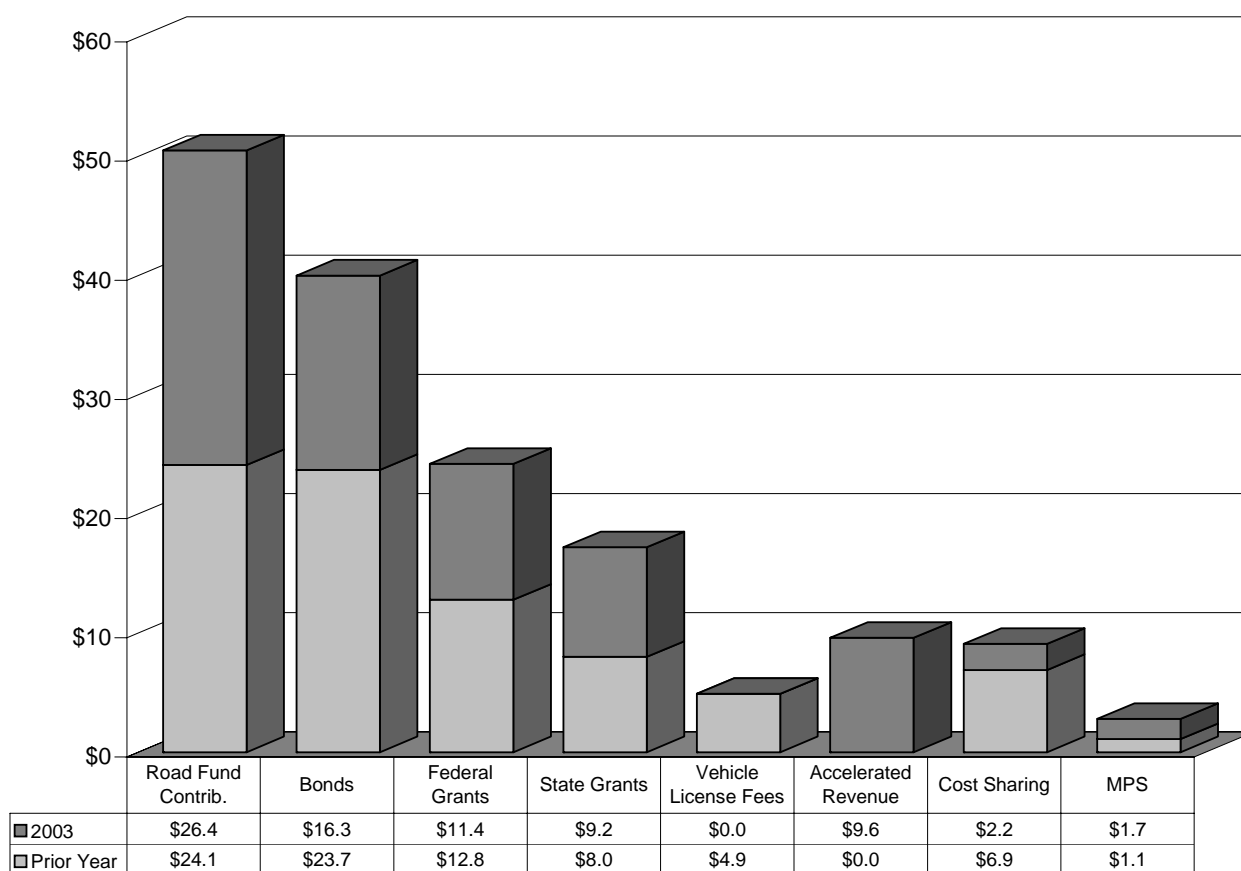
**Figure 2: 2003 Road Fund allocated by core business**

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One percent of the reimbursable fees for services are allocated to cover required costs associated with division and county administrative services for administering those programs.

## Road Construction Fund revenues and budget

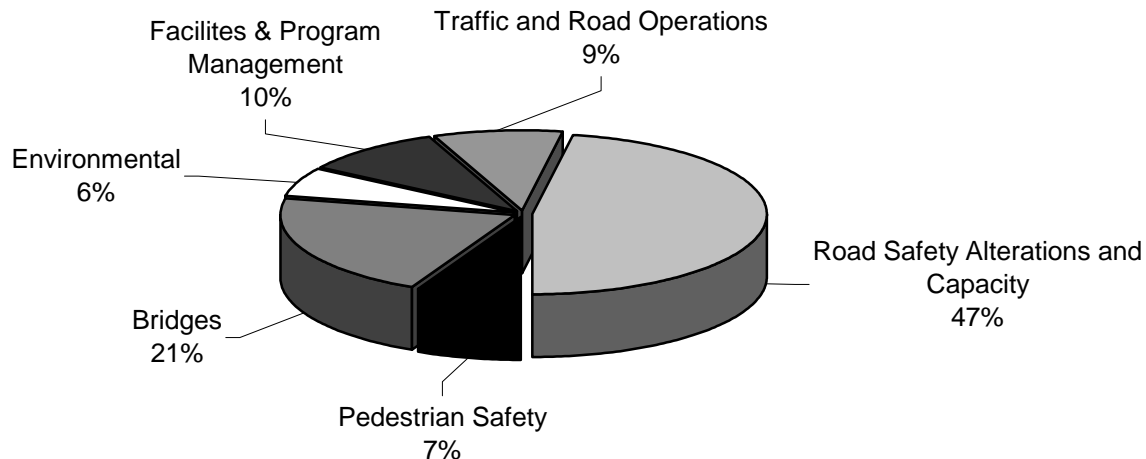
The Road Construction Fund receives annual revenues from the Road Fund contribution, bond proceeds, federal and state aid, local option vehicle license fees, Mitigation Payment System (MPS) fees, sale of land, and investment interest earnings. The total revenue amount varies from year to year depending on the grant funds available from federal and state sources. In 2003 the new revenue identified during the budget process combined with revenue carried forward from previous fiscal years totals \$158 million, as shown in Figure 3.



**Figure 3: Roads CIP funding sources, including prior year carryover (\$ millions)**



The 2003 Roads \$163 million CIP budget, including prior year carryover, is allocated among the project categories shown in Figure 4.



**Figure 4: 2003 CIP Fund allocation by project category**

### **CIP grant funding**

The Road Services Division uses a number of state and federal grant programs to help fund road, sidewalk, bridge, and other transportation projects. In 2003, grant funding accounted for approximately 25% of CIP revenues.

At the state level, the Transportation Improvement Board and the County Road Administration Board are two major grant agencies that consistently fund the division's road improvement projects.

The Transportation Improvement Board awards grants to transportation projects submitted by local governments. Funds are awarded on a competitive basis and require local financial participation. Typical projects address congestion, safety, and the impacts of economic development in urban areas. Funded by 3 cents of the state's per-gallon gas tax, which represents more than \$100 million annually, the board has contributed more than \$21 million to King County Road Services Division projects since 1995.

The County Road Administration Board administers the Rural Arterial Program, which funds county road and bridge reconstruction projects on a competitive basis every two years. Also supported by the fuel tax, this program awards approximately \$38 million per biennium, and has contributed nearly \$4 million to division projects since 1995.

King County receives grant funding from several federal programs and organizations. The authority to distribute federal grant funds resides in regional, state, and federal agencies, depending on the funding program.

The Puget Sound Regional Council serves as the regional coordinating agency for transportation and growth planning and is the federally designated Metropolitan Planning Organization for the central Puget Sound region. One of the council's many responsibilities, as mandated by the Federal Intermodal Surface Transportation Efficiency Act of 1991 and the Federal Transportation Equity Act for the 21st Century, is the distribution of federal funding.

The council awards new federal funds from the Federal Highway Administration through a biennial competitive process. To meet the region's diverse needs, the council has divided this funding into regional and countywide programs. The regional program funds large projects with regional benefits, and the countywide program focuses on meeting the needs of the local agencies.

Once federal funding has been awarded to a project, a variety of administrative responsibilities and requirements must be met throughout the life of the project. The Federal Highway Administration has delegated these administrative responsibilities to the Washington State Department of Transportation's Office of Highways and Local Programs. King County works with this office to ensure that all of the division's federally funded projects satisfy these requirements.

Many of the division's bridge projects are funded through the federal Highway Bridge Replacement and Rehabilitation Program, which is administered through the state Office of Highways and Local Programs. Applicant projects are evaluated twice a year by the Bridge Replacement Advisory Committee, which recommends select projects to the office's director. Since 1995, the Highway Bridge Replacement and Rehabilitation Program has contributed over \$28 million to division bridge projects.

The division is constantly searching for new and alternative grant programs and funding sources.

## **Budget development requirements—legal mandates**

The division's budget development choices are guided in part by state laws that require full cost recovery and a balanced budget.

### **Full cost recovery**

State law prohibits a fund, such as the Road Fund, from benefiting another fund or organization, such as a contract city, without compensation that would recover the full cost to the original fund. In response to this requirement, the division develops yearly administrative overhead cost recovery rates that are charged to other funds and agencies for every dollar of direct labor it carries out on their behalf. This overhead rate also applies to labor charged to Roads CIP projects budgeted in the Road Construction Fund.

This rate addresses the requirement of full cost recovery and also helps the division meet its objective of being perceived by its customers as cost effective and competitive relative to other providers of road services. In 2003, the rate charged to city contract customers was 62%, or \$62 for the costs of administrative support for every \$100 of direct labor. The division has a history of successfully controlling administrative costs, and has found this to be the most direct method for retaining both a competitive cost recovery rate and the division's contract services customer base.

### **Balanced budget**

State law requires the division's annual operating budget to be balanced to the fiscal year's projected revenues, and the Roads CIP to be balanced to revenues projected for the six-year planning horizon. Roads CIP budget appropriations are made for the fund total in the first year of the program, with estimates of expenditures and revenues provided in the 6-year CIP for the remaining five years. Before 1998, budget appropriations were made for each individual CIP project, but now they are grouped into one single Road Construction Fund appropriation in order to take advantage of the Roads CIP Flexible Budgeting program, described below.

State law does not permit deficit financing. If a fund happens to go temporarily into deficit, short-term cash borrowing is required to restore a positive balance. The division has used short-term (2-3 months) borrowing on occasion for cash management purposes.

### **Budget development constraints—financial limitations to program growth**

The division's ability to expand or add operational programs and/or increase the dollars committed to Roads CIP projects in response to traffic congestion, safety, and other transportation needs is limited by its ability to 1) reprogram the existing budget, and 2) raise additional revenues.

### **Reprogramming the budget**

The division funds a low level of administrative support (7%) relative to funding for direct services. The remaining funding (93%) provides for direct services and the CIP. All funding priorities are reviewed each year, and the division reduces or discontinues funding for some lower priority existing programs, projects, and services in order to reprogram those funds to respond to emerging needs, new opportunities, or changing demands by the public for different road services.

### **Revenue potential**

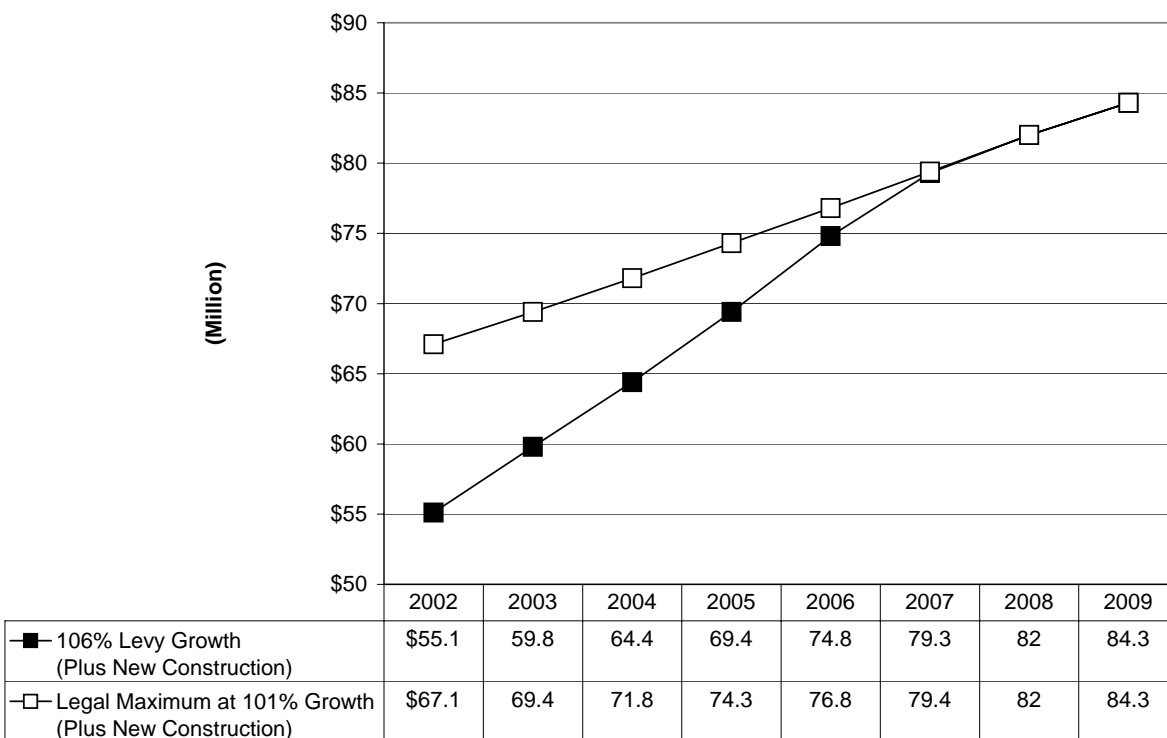
Most of the division's existing funding sources are relatively inflexible in terms of being able to provide additional revenue. Three major funding sources (property taxes, gas taxes, and Mitigation Payment System fees) are or soon will be declining because of the shrinking unincorporated area tax base or citizen-initiated tax limits. The \$15 local option Vehicle

License Fee, one of the division's major CIP revenue sources since its adoption in 1991, was eliminated in 2003 by a tax limit initiative (Initiative 776), which cut \$4.8 million annually from the Roads CIP. The unincorporated area road levy was one of the few revenue sources that King County elected officials were able to adjust based on their determination of road services needs and taxpayer impact. However, this ability will soon be limited by a 1% property tax growth limitation (Initiative 747) passed in 2001.

### **1% property tax growth limit (Initiative 747)**

Beginning in 2001, under Initiative 747, the property tax that can be levied each year is limited to 101% of the maximum allowable levy from the previous year, plus an additional amount associated with newly constructed properties in the taxing district.

Before passage of Initiative 747, the maximum allowable levy growth rate was 106% (plus new construction) of the prior year amount levied each year since 1986, or until a tax rate with a top limit of \$2.25 per \$1,000 of assessed value is reached. The full 106% growth was



**Figure 5: The division's property tax revenue growth will reach the legal maximum and flatten out beginning in 2008 under Initiative 747's 1% property tax growth limit.**

not always applied to the county's unincorporated area road levy, so the county's road district currently has "excess levy capacity" that it can use to levy funds for needed road services in the unincorporated area. This excess allowed the county to increase the road levy in 2002 by 106% (plus new construction) over the previous year's levy, and this practice can continue until the maximum levy amount is reached, which is projected to occur in 2007. From that point road revenues from property taxes will grow by 1% per year, considerably less than the rate of inflation over the past 15 years.

## **Financial impact of annexations and incorporations**

Annexations and incorporations reduce the size, assessed valuation, and population of the county's unincorporated area, shrinking the county's tax base and therefore the taxes and fees that fund division operations and projects. Some cities that are newly incorporated or have annexed unincorporated areas choose to contract with the division to carry out road and traffic maintenance and operations services, generating revenue for the division. However, when cities choose not to do this the division's road and traffic maintenance budgets are reduced.

Construction projects located within the newly annexed or incorporated area are also considered for reprogramming. Decisions by cities on the timing of annexations, and by citizens considering incorporations, often take into account the status of projects listed in the county's 6-year Road Capital Improvement Program.

The division's finances are adversely affected by annexation or incorporation when the revenue loss exceeds new contract revenues or budget reductions that result from the jurisdictional change. Annexation or incorporation improves the division's financial picture when the expense of serving an area is greater than the revenue lost when it is annexed or incorporated.

## **Recent budgeting innovations**

The division has pursued innovative budgeting techniques in recent years to allow for agile use of financial resources in response to changing circumstances and to support early completion of capital improvements.

### **Roads CIP Flexible Budgeting—project reallocations**

In April 1998 the County Council adopted the Roads CIP Flexible Budgeting Ordinance to allow the division more ease and flexibility in reprogramming CIP project budgets. Under flexible budgeting, dollars assigned to current year projects that become stalled can be applied to other projects scheduled for later years of the six-year program that are ready to move forward.

Before this change, the division needed council approval by ordinance to cancel project budget appropriations for each stalled project and then to re-appropriate the funds to other projects that were ready to move forward. On average, this process took eight to 10 weeks. Now the division submits a yearly Roads CIP Reallocation Report proposing such substitutions to the chair of the County Council Transportation Committee. This approach is faster (taking two to three weeks) and removes much of the risk of missing the year's "construction window" due to appropriation process delays.

### **Roads CIP Flexible Budgeting—project contingency funding**

Before the flexible budgeting ordinance was adopted, the division would plan a 10% contingency reserve in the budget for each project. This reserve was not used on every project, but the reserve funds would remain tied up until the projects were completed and their budgets closed out. Flexible budgeting has allowed the division to pool the contingency funds for all projects in a single project, the Cost Model Contingency project. This contingency project receives 5% of each of the CIP project budgets. The remaining 5% that would have been assigned to specific projects under the previous budgeting practice is reprogrammed into the Six-Year CIP.

### **Roads CIP Flexible Budgeting—overprogramming**

Another important feature of Roads CIP Flexible Budgeting is the ability to budget more in any given year than the revenue receipts projected for that year. Total budgeted expenditures and revenue over the six-year program are balanced, but funds may be used before the receipt of programmed revenues as long as expenditures do not exceed the cash balance available in the fund. The road construction fund had built up a large cash balance prior to the adoption of flexible budgeting, and the overprogramming permitted by the new ordinance has resulted in earlier project delivery.

### **Debt financing—road construction bonds**

Debt financing through the issuance of general obligation bonds was used in the Roads CIP for the first time in 2002. During the process of preparing the 2001 budget and adopting the 2001-2006 Roads Six-Year CIP, the County Executive proposed and the County Council approved the issuance of debt in order to accelerate completion of road projects that will be designed and ready for construction over the next four years. The current Roads CIP includes provisions for \$120 million in bond sales by 2006 to finance the Road Construction Bond Program, which will accelerate nine large projects intended to provide congestion relief to the region. Because repayment of the debt was programmed in future years as a project in the Roads CIP supported by the "local option" vehicle license fee revenue that was lost under Initiative 776, the assumptions regarding the level of future debt financing will be revisited in the 2004-2009 CIP.

## **Budget choices**

Each year the division must decide which items to propose to the County Executive and County Council from among the many competing demands for safety or capacity improvements, operations, and infrastructure maintenance. Budget choices are made within the legal and/or policy requirements to prepare a budget plan that balances expenditures with revenues, meets fund balance requirements, and includes full cost recovery when providing services to other agencies and funds. Recent budget innovations such as Roads CIP Flexible Budgeting and the issuance of Road Construction Bonds have helped to maximize the active use of available revenues.

In the absence of any new and predictable source of funding, and with the adverse financial impacts on the Road Fund from 1) the loss of vehicle license fee revenues, 2) additional revenue losses that are expected in the near future due to the 1% property tax limit initiative (I-747), and 3) future incorporations and annexations, budget decisions will become increasingly difficult in future budget cycles.

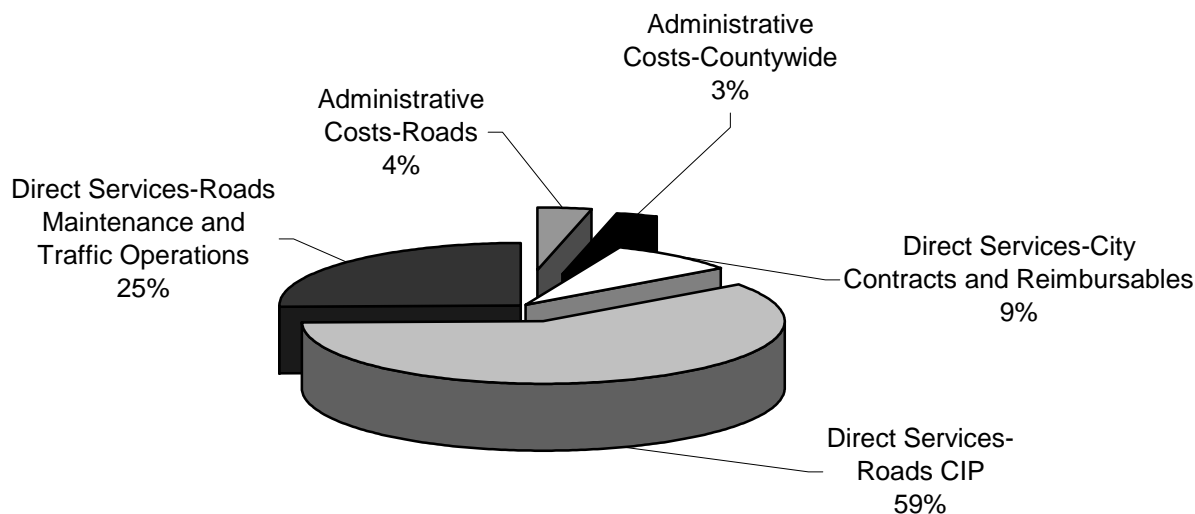
In recent years, the division, the County Executive, and the County Council have focused much of their attention regarding Road Services Division budgeting priorities on funding decisions related to the following policy choices:

- Appropriate levels of administrative support of direct services funding in the operating budget;
- Strike a reasonable balance in allocating Road Fund dollars between the operating budget and the CIP budget; and
- Fund CIP projects that sustain a safe and efficient condition for the current system of roads and bridges while also 1) addressing the need for additional road capacity to meet the travel demands of a growing population, and 2) supporting the county's growth management policies.

## **Administrative support versus direct services**

Compared with other jurisdictions throughout the state of Washington, the Road Services Division funds administrative costs at a very modest level relative to total spending. According to the November 29, 2000, final report of the state's Blue Ribbon Commission on Transportation, a group created by the Legislature and Governor to conduct a comprehensive analysis of statewide transportation needs and priorities, Washington state transportation agencies' administrative and planning costs averaged 10 to 12 percent of total spending. The Commission noted that this level of administrative overhead reflects Washington's environmental ethic, culture of planning, neighborhood activism, and citizen involvement.

In 2003, the division projects that only 7 percent of its total operating and CIP spending will go toward administrative costs, including division administration and planning as well as the division's portion of countywide administrative costs (see Figure 6). This is well below the average for transportation agencies in the state and matches the 2000 Blue Ribbon Commission's recommended level of 7 percent, which is the nationwide median for all state transportation agencies.



**Figure 6: Projected direct service versus administrative spending in 2003**

## Road Fund—CIP versus operations

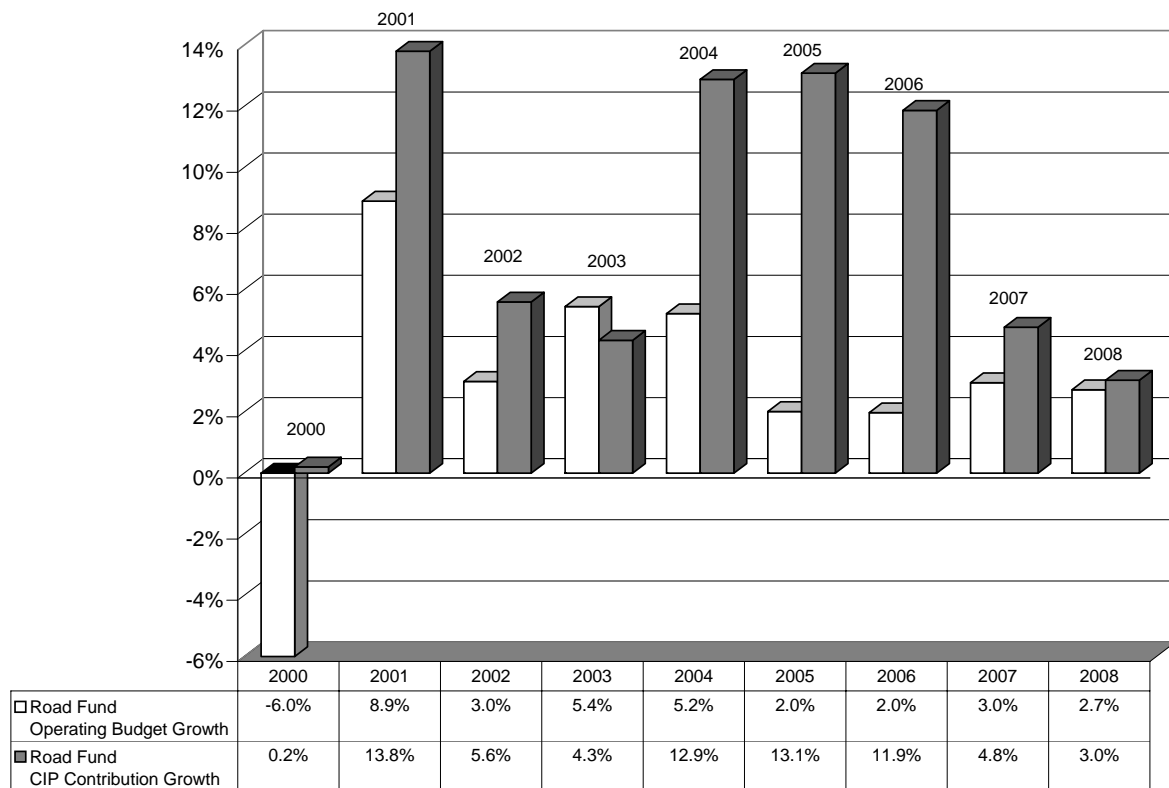
In addition to the budgeting innovations described above (Roads CIP Flexible Budgeting and Bond Financing), which accelerate project delivery through maximal use of existing Road Fund financial resources, the division has proposed a very aggressive Capital Improvement Program for the next six years that provides more growth in funding for capital improvement than for operations programs.

Between 2000 and 2008, the current Road Fund financial plan calls for the CIP contribution to increase at an average rate of 7.7 percent per year, compared with 2.9 percent for the operating budget.

Most of the CIP increase will fund new programming for the Road Safety, Rehabilitation, and Retrofit Program, which targets improvements needed to meet current safety standards and to maintain the existing infrastructure. The operating budget's growth is intended to cover cost increases due to inflation.



Figure 7 shows the projected annual growth rates for funding the operating budget and the CIP contribution between 2000 and 2008.



**Figure 7: Operating budget versus CIP contribution growth rates**

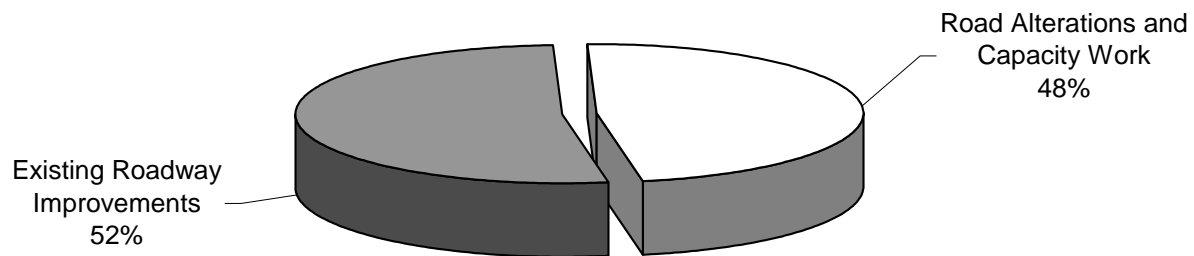
## Balancing CIP project funding for preservation and maintenance of existing infrastructure with new capacity needs

Many of King County's roads and bridges were built during the 1950s or earlier and are now reaching the ends of their useful lives, becoming increasingly unsafe or expensive to maintain.

The Roads Safety, Rehabilitation, and Retrofit program targets \$35 million in new funding between 2003 and 2008 toward pavement overlay, pedestrian safety improvements, guardrail and signal upgrades, and intersection and roadway safety improvements to meet current standards for safety and cost effectiveness. This amount was derived from numerous

planning and engineering studies that assessed the condition of the county's road system. These funds, combined with other dollars focused on improvements to existing roads, make up 52% of the total project budget in the 2002-2008 Roads CIP (see Figure 8).

The remaining 48% funds road alterations and other new capacity projects, including debt service payments for new projects to be funded by Roads Construction Bonds.



**Figure 8: Road improvement funding 2003-2008—existing roads versus added capacity**

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## **II. Goals, Strategies, and Actions**



## **Chapter 4**

# **Regional Leadership, Partnership, and Coordination**

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***Goal: Pursue regional leadership, coordination, and partnership to address countywide transportation challenges.***

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The Road Services Division has two complementary roles in addressing transportation needs in King County. One is to provide local services to the county's unincorporated areas, which are those that are not part of any city. In these areas, the division is directly responsible for planning, designing, building, operating, improving, and maintaining the road system (except for private roads, state and interstate highways, and a few others). Cities are responsible for similar services within their boundaries.

The division's other important role is to help create a seamless regional<sup>3</sup> transportation system that serves multi-modal users throughout the county and beyond. King County is one of many jurisdictions, including 39 cities and the Washington State Department of Transportation (WSDOT), that are responsible for various parts of a large, interconnected, countywide road system. The King County Comprehensive Plan calls for the county to pursue leadership, coordination, and partnership at a regional level. The division pursues regional projects through interlocal cost sharing agreements and, when regional funding is available, through grants or other sources. The strategies and actions in this chapter address several ways in which the division can contribute to the achievement of a well-functioning regional transportation system.

### **Summary of Strategies**

- |                       |  |
|-----------------------|--|
| <b>Strategy REG 1</b> | <b>Expand the division's involvement in existing regional planning, coordination, and decision-making processes.</b>                               |
| <b>Strategy REG 2</b> | <b>Promote a multi-jurisdictional regional transportation corridor approach to project planning and implementation.</b>                            |
| <b>Strategy REG 3</b> | <b>Lead, promote, and coordinate technology initiatives, such as intelligent transportation systems, that address regional traffic congestion.</b> |

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<sup>3</sup> In this plan, the term "regional" typically refers to transportation issues, facilities, services, projects, activities, etc. that pertain to the county as a whole, including both incorporated and unincorporated areas. It may also be occasionally used to refer to the larger Puget Sound region.

- Strategy REG 4**      **Coordinate with other jurisdictions on the regional use of county and city traffic control centers to optimize use of the existing road network.**
- Strategy REG 5**      **Coordinate with other jurisdictions on environmental, transportation planning, traffic operations, road maintenance, and other program initiatives that support effective and efficient management of the transportation system.**
- Strategy REG 6**      **Support regional freight mobility and incorporate freight considerations into road planning, design, construction, and maintenance.**
- Strategy REG 7**      **Assess unmet countywide transportation information needs and consider coordinating some regional data as appropriate.**
- Strategy REG 8**      **Increase coordination with other jurisdictions on measures that minimize disruption to the public during road project construction.**
- Strategy REG 9**      **Continue to build on contracting relationships between jurisdictions as part of the foundation for regional coordination and partnership.**

## **Strategies and Actions**

- Strategy REG 1**      **Expand the division's involvement in existing regional planning, coordination, and decision-making processes.**

A basic foundation for the division's regional activities is active participation in existing regional processes and forums. These provide mechanisms for the jurisdictions in King County and beyond to work together to analyze regional transportation needs, identify solutions to transportation problems, and often to advocate for the funding necessary to implement those solutions. The division should review current participation levels and, where beneficial, increase them or seek new opportunities to participate.

- Action REG 1-1      Increase coordination with the Puget Sound Regional Council on regional transportation planning efforts.*

The Puget Sound Regional Council is designated under federal and state laws as the metropolitan planning organization and the regional transportation planning organization for central Puget Sound, including King, Pierce, Snohomish, and Kitsap Counties. This council is required by state and federal law, and by its own governing interlocal agreement, to maintain the regional growth and transportation strategy for the region and to conduct and

support numerous state and federal planning, compliance, and certification programs that enable counties, cities, transit agencies, ports, and WSDOT to obtain state and federal funding. Coordination with the council's planning activities is therefore essential to the division.

*Action REG 1-2      Increase participation in the subarea transportation board process facilitated by the county Department of Transportation's Office of Regional Transportation Planning (ORTP).*

The ORTP provides regional transportation planning and grants services for the department by working collaboratively with other departments, jurisdictions, and agencies to craft strategies that implement the county's vision. Among other responsibilities, this office coordinates three subarea transportation boards that are comprised of elected officials from local jurisdictions and King County, transportation agency representatives, and the private sector. These are: the Eastside Transportation Partnership, the South County Area Transportation Board, and the Seashore Transportation Forum. The mission of these boards is to provide forums for sharing information and building consensus to solve common transportation problems. The division should increase participation at the staff technical advisory committee level and use the boards whenever appropriate to facilitate implementation of the regional strategies and actions outlined in this plan.

*Action REG 1-3      Increase division efforts to advocate for the entire King County area transportation system at the federal and state levels, at the Puget Sound Regional Council, and in other appropriate forums.*

The division should strongly promote the interests of the entire King County regional road system—both incorporated and unincorporated—to federal, state, and other agencies such as the Puget Sound Regional Council and to coalitions involving King, Pierce, and Snohomish Counties, and should advocate for funding. Advocacy could occur at the staff or management level, or through providing information, analysis, and support to others, such as elected officials.

*Action REG 1-4      Work with other agencies to clarify regional roles, maximize effectiveness, and avoid duplication.*

The division is interested in using its broad expertise in the planning, design, construction, operation, and maintenance of roads to complement the efforts of other agencies and enhance the functioning of the road system throughout King County. In working with the Office of Regional Transportation Planning, Puget Sound Regional Council, WSDOT, and other agencies, the division should strive to clarify respective roles in regional matters in order to maximize effectiveness and avoid duplication of efforts. Each agency has a unique combination of legal and policy mandates to fulfill and valuable knowledge and expertise to contribute to regional transportation solutions.

**Strategy REG 2      Promote a multi-jurisdictional regional transportation corridor approach to project planning and implementation.**

Many important transportation corridors are regional in nature, passing through more than one jurisdiction. These regional corridors make multi-jurisdictional planning essential to meet existing and future transportation needs. *Destination 2030* (the Metropolitan Transportation Plan for the Central Puget Sound Region), the King County Countywide Planning Policies, and the King County Comprehensive Plan all support a multi-jurisdictional approach to transportation planning.

*Destination 2030* defines a transportation corridor as:

*In planning, a broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways and transit lines and routes.*

Arterial roads are often the main focus of the division's corridor approach. Regional arterials are major roads that carry higher traffic volumes over relatively long distances, often between jurisdictions. These critical links in the regional transportation system are, with just a few exceptions, the responsibility of the individual jurisdictions through which they run. A well-functioning arterial system not only moves people and goods more safely and efficiently, it also helps keep traffic off local neighborhood streets.

The division recognizes a regional arterial system comprised of both the Puget Sound Regional Council-designated Metropolitan Transportation System (MTS), and the Regional Arterial Network (RAN). These two systems describe the existing and future arterial network similarly but were developed for different purposes. The MTS, designated in *Destination 2030*, represents the federally recognized regional arterial network within the four-county (King, Pierce, Snohomish and Kitsap) Puget Sound region. It also includes ferry, transit, non-motorized, freight, rail, and aviation components. Among other functions, it is used to certify regional air quality compliance and provides a basis for federal funding. The RAN identifies a system of regionally significant roads within King County that are critical to the movement of goods and people. It is a network of multimodal corridors essential to countywide mobility for transit, freight, and general-purpose traffic. Its purpose is to help identify shared priorities among the jurisdictions in King County and to promote coordinated improvements along the regional transportation system.

The MTS and the RAN encompass most roads of interest in the division's regional corridor approach. However, if others, such as freight or bus corridors, are identified in a multi-jurisdictional process, they can be considered as well.

*Action REG 2-1      Facilitate and, where appropriate, lead countywide planning efforts on regional corridors.*



The Road Services Division should bring together jurisdictions in King County, and beyond if necessary, to plan and prioritize improvements to regional corridors so the corridors can function more smoothly as an integrated, multi-modal system for moving people and freight.

A good example of such regional planning collaboration is the TransValley Area Study, which identifies solutions for mobility constraints on a number of priority corridors in south King County. This study was the product of a division-led partnership that included King County, the cities of Kent, Renton, SeaTac and Tukwila, the Port of Seattle, the Puget Sound Regional Council, and WSDOT. King County and the four local jurisdictions partnered financially on the study, which developed: 1) a set of possible solutions; 2) consensus on the preferred recommendations and action plan; 3) an implementation strategy; and 4) an outline of the process to address environmental impacts. This model of multi-jurisdictional planning holds much promise for the future.

*Action REG 2-2      Facilitate and, where appropriate, lead implementation of cross-jurisdictional capital improvement projects on regional corridors.*

In addition to planning efforts, the division should work closely with other jurisdictions, including other counties if needed, to coordinate the implementation of road projects that cross jurisdictional boundaries. For example, two or more jurisdictions may need to work together to interconnect traffic signals to improve flow, or to widen portions of a roadway that cross through their respective jurisdictions. In some situations, it may be beneficial for the division to offer its services as lead agency for complex projects that involve many jurisdictions or that require specialized technical expertise the county can provide. The details of any such arrangement would be negotiated on a case-by-case basis with the jurisdictions involved.

*Action REG 2-3      Focus King County's major congestion-related capital improvements in the unincorporated area on roads important to the functioning of regional corridors.*

In selecting major congestion-related capital projects to build in the unincorporated area, the division should focus its investments on projects located on regionally important arterials to provide widespread benefits to the regional transportation network. More information on congestion issues can be found in Chapter 6, Congestion Management (page 57).

*Action REG 2-4      Facilitate road improvements that benefit transit routes and other efficient travel modes on corridors throughout incorporated and unincorporated areas of the county.*

The county's Metro Transit buses depend on city, state, and county road facilities, especially arterials in the urban area of the county. This gives King County an additional interest in maximizing the functioning of the regional road system. The division can help by making technical information and the knowledge and expertise of its staff available as appropriate to identify and implement key road improvements needed to improve transit efficiency and

accessibility. The exact nature of this assistance would vary on a case-by-case basis. More discussion of transit-related road issues can be found in Chapter 7, Transportation Alternatives (page 67).

*Action REG 2-5      Identify arterials in rural areas that fulfill a regional corridor role, conveying people and goods between and to urban areas. Consider this regional function when planning future road improvements and discuss with other affected jurisdictions.*

While many regional arterial corridors are located in urban areas, there are also a number of arterials that pass through rural areas and serve an important regional corridor function in conveying people and freight between urban areas. As growth in these urban areas continues, it will be increasingly important to identify and study these roads and determine how to address improvements on them to maintain public safety and mobility. Such analysis should include the participation of other affected jurisdictions and appropriate community involvement.

*Action REG 2-6      Coordinate with other jurisdictions on state and federal grant processes to maximize successful competition for funding of regional corridor improvements.*

The division should work with other jurisdictions to develop a coordinated approach to maximizing grant funding for the entire county. This approach may include prioritizing regional projects, assisting other jurisdictions with grant applications, partnering on applications, or supporting other jurisdictions' applications.

*Action REG 2-7      Collaborate with Metro Transit, WSDOT, and other relevant jurisdictions to identify and collaboratively eliminate gaps and missing links in the state highway system.*

Many regionally significant roadway facilities on the state highway system lie between municipalities within unincorporated King County. These roads are often not built out to an appropriate designed section (width), including potential HOV lanes. As a result, these segments experience increased traffic congestion and pose a constraint to transit operations and other vehicle access.

The division should seek to identify and undertake collaborative projects with Metro Transit, WSDOT, and relevant jurisdictions to eliminate these gaps and missing links in the regional highway system where appropriate and where adequate funding is available. If such arrangements cannot be achieved within existing codes and regulations, the division should consider requesting the legislative changes necessary to enable it to participate in such projects.

**Strategy REG 3      Lead, promote, and coordinate technology initiatives, such as intelligent transportation systems (ITS), that address regional traffic congestion.**

Intelligent transportation systems apply advanced information processing, communications, sensing, or control technologies to the management and operation of the transportation system. They can increase the system's safety and efficiency, and also can help reduce air and noise pollution and fuel consumption. Some relevant examples of ITS include interconnecting traffic signals and signal control software, transit signal priority systems, emergency and incident response management, and real-time traveler information such as Web pages and traffic cameras.

ITS can help King County get the best value from the existing road system and is an important tool to improve traffic flow, reduce auto and transit travel time, and reduce crashes and fatalities. In some cases, ITS solutions can help avoid the need for major road widening. Successful use of ITS requires strong city-county partnerships that recognize mutual benefits and result in cross-jurisdictional advocacy and project support.

*Action REG 3-1      Form a public partnership with other local agencies to design and build ITS projects along regional corridors that cross jurisdiction boundaries.*

*Action REG 3-2      Develop a list of regional ITS projects prioritized for funding.*

To be effective, technological approaches must be implemented over distances that usually cross city and/or county boundaries. Accomplishing this requires several levels of interjurisdictional coordination, including ensuring compatible technology across jurisdictions and developing formal agreements to work together on project planning and implementation. Another important task is to reach consensus on a prioritized set of projects that will provide regional benefits. The division should seek to become a leader in the pursuit of ITS projects by bringing jurisdictions together to plan and implement ITS elements along roads of regional importance.

*Action REG 3-3      Work cooperatively with local jurisdictions to pursue ITS revenue sources at the federal, state, and regional level.*

A coordinated funding strategy is critical to the successful regional application of ITS, and should involve creation of a prioritized list of regional projects and compliance with federal requirements for ITS projects. The Puget Sound Regional Council has developed a Puget Sound Regional ITS Architecture to which agencies should adhere in order to qualify for federal funding. This architecture is a framework for ensuring institutional agreement and technical integration for ITS projects within the region, and will help ensure that equipment put into place by city, county, or other agencies will be compatible and function together as a system.

**Strategy REG 4      Coordinate with other jurisdictions on the regional use of county and city traffic control centers to optimize use of the existing road network.**

Traffic flow can be improved and traffic volumes better accommodated by enhanced traffic management within and across jurisdictions. Traffic control centers incorporate technology that includes remote traffic signal control, video surveillance, and real-time data collection. These technologies allow traffic engineering staff to remotely and quickly review traffic conditions and provide current and accurate information about them to other agencies and to the public via the Internet and variable message signs. Information collected at traffic control centers also helps staff identify problems as they occur and make changes to traffic signal systems that improve traffic flow.

*Action REG 4-1      Pursue the creation of a regional, center-to-center communications system for sharing traffic information between the county traffic control center and traffic control centers of other jurisdictions.*

The county's traffic control center will provide a communications base for traffic flow management. Center-to-center communication would let the division share data with traffic control centers in other jurisdictions, allowing observations of traffic conditions to be shared with other agencies and the public as they occur. The communications capacity of traffic control centers in the region needs to be expanded to accommodate center-to-center communications.

*Action REG 4-2      Pursue development of the county traffic control center as the regional collector and distributor of county and local agencies' traffic management information to the public, media, and other adjoining agencies.*

To efficiently manage traffic flow throughout the county, a regional clearinghouse of traffic data and information needs to be developed. Just as WSDOT collects and distributes freeway information, King County through its traffic control center could collect and distribute arterial information to the public, media, and neighboring cities.

*Action REG 4-3      Work with cities to develop agreements that will allow them to use the county traffic control center to operate their traffic signals.*

The cost to build a traffic control center is high and the dollars to operate it are limited. Some cities may prefer to contract for traffic control center data and services. The division should work with cities to offer the facilities and expertise it already has in place to help them manage their traffic problems.

**Strategy REG 5      Coordinate with other jurisdictions on environmental, transportation planning, traffic operations, road maintenance, and other program initiatives that support effective and efficient management of the transportation system.**

Many activities that support road services could benefit from a coordinated regional approach that looks beyond individual capital projects, programs, or small geographic areas. These include Endangered Species Act response, wetland mitigation banking, other consolidated environmental mitigation, shared storm water control facilities, cultural resource protection, travel demand forecasting, transportation concurrency, traffic mitigation payment systems, disposal of stormwater waste and street sweeping solids, and pavement overlay.

*Action REG 5-1      Pursue collaboration with cities and state agencies on multi-jurisdictional program initiatives related to activities such as environmental and cultural resource protection, transportation planning, traffic operations, and road maintenance, as appropriate.*

The county and other jurisdictions may be able to achieve mutual benefits by collaborating on selected program initiatives. The benefits of such collaboration could include cost savings, economies of scale, enhanced program effectiveness, efficiencies in program administration, or more predictable regulatory requirements.

The Regional Road Maintenance Endangered Species Act Program Guidelines project coordinated by the division is one example of a highly beneficial multi-jurisdictional initiative. These policies and practices are the product of a lengthy collaborative effort between local government agencies, the National Marine Fisheries Service, the United States Fish and Wildlife Service, and other interested parties. Twenty-three counties and cities in Washington state, as well as WSDOT, have received approval for inclusion in the program.

The division should continue its efforts and work with the cities and state where appropriate to identify additional programs and activities that might benefit from a multi-jurisdictional approach. Opportunities for collaboration and coordination should also be sought among other King County agencies, such as Metro Transit and the Department of Natural Resources and Parks. Implementation efforts should focus on programs that have broad interest and potential benefits.

**Strategy REG 6      Support regional freight mobility and incorporate freight considerations into road planning, design, construction, and maintenance.**

According to the Puget Sound Regional Council, “Movement of freight is the circulatory system of our economy. The Puget Sound region is a major North American gateway for trade with Pacific Rim countries, and is the major economic engine for Washington state.” While King County does not have direct jurisdiction over most of the key roads for freight mobility because they are either city roads or state highways, it does have a vested interest in

keeping freight moving efficiently throughout the county and region to ensure a vibrant economy. Recognizing this, the King County Comprehensive Plan calls for the county to be a regional proponent of freight planning and mobility and to identify transportation projects and opportunities for financial partnership to achieve regional freight mobility goals.

*Action REG 6-1      Participate in existing and future regional freight mobility forums as needed, including the Freight Action Strategies (FAST) Corridor regional freight mobility partnership and the Regional Freight Mobility Roundtable, to continue evaluation and discussion of freight issues at a regional level.*

King County's involvement in freight mobility efforts often occurs at the level of the Director's Office of the Department of Transportation or in the department's Office of Regional Transportation Planning. The division should complement other department efforts, become involved as appropriate in the support or coordination of freight-related efforts, participate in existing regional freight forums, and help lobby for the common interests of King County jurisdictions.

*Action REG 6-2      Incorporate freight mobility concerns into the division's planning efforts and develop meaningful freight mobility criteria to incorporate into the process used to screen and prioritize future county capital needs. Use criteria that are consistent with regional freight mobility efforts.*

In addition to participating in regional coordination efforts, the division must also consider freight mobility in the creation and prioritizing of its own planning and capital needs list to connect long-term corridor needs and project-level decision making. Freight mobility should be a key consideration in screening and prioritizing projects. Factors to be considered include a project's regional significance and its role in freight corridor mobility. Transportation forecasting analysis using the King County Travel Demand Model could also support freight mobility analysis efforts.

*Action REG 6-3      Seek federal and state grants for projects containing freight elements that help further regional freight efforts.*

Federal and state funds for freight mobility projects have been available in recent years through the FAST Corridor project prioritization and funding process. As part of King County's continuing participation in the FAST Corridor partnership, projects that are of regional freight significance and may qualify for additional funds should be identified from the county's capital needs list. Any eligible projects should be submitted for consideration in future FAST Corridor prioritization processes, or for other funding processes that may be appropriate.

*Action REG 6-4      Coordinate with King County cities on freight issues and project proposals as appropriate.*

*Action REG 6-5      Work with city and other agency partners to implement the freight-related improvement strategies identified in the TransValley Area Study.*

There are many ways the division can coordinate with other jurisdictions to address freight mobility needs. Coordination may take place at an individual project level or may be part of a larger, more comprehensive transportation planning process.

The TransValley Area Study is a good example of a successful multi-jurisdictional planning effort with freight mobility implications. The study identifies key regional and local transportation issues within a multi-jurisdictional area of south King County, considers freight mobility and the freight network in the designation of corridors, and specifies freight improvements needed. The division should continue to participate in the implementation of projects identified in the TransValley Study in collaboration with partner cities and agencies. In addition, the TransValley study approach to corridor planning, which benefits both general mobility and freight mobility, should be considered for use in other corridors if appropriate and desired by local jurisdictions.

*Action REG 6-6      Advocate for and participate in the selection or development of an appropriate freight route map for use by the King County Department of Transportation.*

Several freight maps with different orientations are currently in use within the Puget Sound region. The division should participate in selection or development of a map appropriate for use throughout the department and for possible inclusion or reference in a future King County Comprehensive Plan update. A freight route map would not restrict freight travel but would identify roads most appropriate for freight use. The criteria used to identify and evaluate freight routes should include safety, access, capacity, mobility, neighborhood needs, and the appropriateness of the surrounding community for freight passage.

**Strategy REG 7      Assess unmet countywide transportation information needs and consider coordinating some regional data as appropriate.**

Many types of data are needed to plan and manage transportation systems. In many cases, transportation information is also valuable in securing state and federal funding. Similar work program activities in other jurisdictions may require the same sorts of data needed by King County. All jurisdictions might benefit from having more coordinated transportation data.

*Action REG 7-1      Identify the division's needs for various types of countywide data and the current availability or accessibility of such data.*

*Action REG 7-2      Discuss mutual transportation data needs with other county agencies and other jurisdictions and identify potential benefits of increased data sharing and coordination.*

The division should initiate an assessment of shared transportation data needs in collaboration with other county agencies, interested jurisdictions, and the Puget Sound Regional Council and identify appropriate and cost-effective methods for coordinating and sharing data.

*Action REG 7-3      Work with the King County Geographic Information System Center to pursue coordinated access to countywide transportation data needed for division business purposes or to create new databases where appropriate, cost effective, and beneficial to the division and other jurisdictions.*

King County's Geographic Information System Center is responsible for, among other things, coordination of various types of regional data. Many technical initiatives involving data sharing with other agencies are already underway in King County. The division should work with the center to ensure that the division's needs, and those of the region, for road-related transportation data are understood and incorporated into current and future efforts.

**Strategy REG 8      Increase coordination with other jurisdictions on measures that minimize disruption to the public during road project construction.**

*Action REG 8-1      Continue or expand efforts to coordinate with other jurisdictions on staging of projects, traffic control, and other measures to minimize disruption from local projects.*

Two or more jurisdictions often have road construction or repair projects located in the same general vicinity. An awareness of other jurisdictions' planned activities, plus coordination between jurisdictions on traffic control and other measures, helps reduce the disruption the public experiences. The division should continue existing coordination efforts and enhance coordination where needed.

*Action REG 8-2      Analyze options for minimizing disruption during future major regional infrastructure improvement programs, and be prepared to participate or take a leadership role in solutions.*

If and when a major program of road construction involving improvements to state highways and regional arterials is undertaken in the Puget Sound area, significant coordination of project staging, traffic control, and other measures will be required to ensure that a reasonable level of regional mobility is maintained for individuals, transit, emergency response services, and freight. The division should participate in such coordination efforts and be prepared to take a leadership role if needed.

**Strategy REG 9      Continue to build on contracting relationships between jurisdictions as part of the foundation for regional coordination and partnership.**



The division provides a significant level of contract service to eleven cities that have incorporated since 1990 or expanded through annexation, and has valued contractual relationships with many other cities. Services provided by contract include maintenance, engineering, environmental services, and transportation planning.

Contracting with customer cities fosters mutual interests, establishes and maintains communication channels, and creates unique opportunities to understand other jurisdictions' transportation needs and challenges. These factors provide an excellent foundation for collaboration between the county and the cities to jointly address regional transportation issues.

*Action REG 9-1      Continue and, where possible, expand long-term service contracts with customer cities.*

*Action REG 9-2      Work with contract cities to promote a business relationship that encourages communication, work program planning, and budget predictability.*

Temporary service contracts for newly incorporated or existing cities have become mutually beneficial long-term contracts, allowing the contract cities and King County to benefit from economies of scale and the division's specialized technical expertise.

By providing cities with cost-effective, reliable, and responsive road and traffic maintenance services, the division fosters regional cooperation and contributes to a seamless transportation network in King County. The county will work with contract cities to 1) develop work programs that provide predictability in cost and scheduling, and 2) provide excellent service to customer cities.

King County is not allowed to make a profit on contract services. The Intergovernmental Cooperation Act allows governments to enter into contracting relationships for the benefit of the taxpayers, residents, and voters of the involved jurisdictions. The county is required to fully recover its costs, including staff, equipment, and overhead expenses, but cannot make a profit above those actual costs.

*Action REG 9-3      Promote contract services that capitalize on King County's special expertise, equipment, and economies of scale to cities that do not have comprehensive service contracts with the division.*

In addition to the cities that obtain a significant level of contract service from King County, other cities and local jurisdictions may have service needs the division can accommodate, including "as-needed" services if negotiated in advance, further extending the benefits of economies of scale and specialized equipment or staff. These services include traffic engineering, travel demand forecasting and analysis, transportation concurrency, mitigation payment, bridge inspection, environmental services, pavement overlay, stormwater and wastewater disposal, and certified agency grants administration. The division is interested in

continuing to expand the types of contract services that provide mutual benefits to the county and other jurisdictions.

*Action REG 9-4      Promote contract services to other governmental jurisdictions, such as counties and special districts, where mutually beneficial.*

The division is interested in expanding contract services to other counties or governmental agencies when this would be mutually beneficial. For example, other counties have recently expressed an interest in using some of the division's specialized environmental expertise. Such contract relationships could benefit from the same economies of scale and specialized equipment or staff skills as city contracts.

*Action REG 9-5      Work with Metro Transit to provide coordinated services to cities on transit signal priority and other appropriate regional initiatives.*

The division and Metro Transit should collaborate to provide other jurisdictions with contract services, such as transit signal priority, that support regional transportation goals. This includes the initial deployment of signal priority technology as well as continuing operations and maintenance support. The division should proactively seek other opportunities for partnerships with Metro Transit in the areas of ITS and signal synchronization.

## **Chapter 5**

# **The Urban and Rural Road System**

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***Goal: Plan, design, build, operate, and maintain the road system in a manner that supports and serves urban growth and preserves rural character as directed by the King County Comprehensive Plan.***

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The King County Comprehensive Plan emphasizes different treatment of urban and rural areas with the objective of directing future growth and services to designated urban areas and protecting the character of rural areas. The Growth Management Act requires the county to designate an Urban Growth Area (UGA) where most growth and development forecast for the county will be accommodated. The Comprehensive Plan defines the UGA as follows:

*The UGA includes all cities within the county, including the rural cities, the cities' annexation areas, and land within the unincorporated part of the county characterized by urban-type growth. The UGA also includes the Bear Creek Urban Planned Developments east of Redmond.*

The terms “urban areas” and “rural areas” used in this chapter refer to areas within and outside of the county’s designated UGA, respectively (see Map 2 in Maps section, before Chapter 1).

The strategies and actions in this chapter apply to urban and rural areas within unincorporated King County since these are the areas directly served by the division. These strategies and actions are intended to help the division manage roads in unincorporated areas in a manner consistent with the differing needs and service levels of urban and rural areas as intended by the Comprehensive Plan and the state Growth Management Act.

The link between land use, or the types, concentration, and patterns of development, and demand for transportation facilities and services has long been recognized. Different land uses—retail, office, residential, etc.—generate different levels of travel demand and result in different amounts of vehicular traffic.

Travel demand is created by the needs and desires of people to shop, work, attend school, recreate, and participate in other activities outside their homes. The factors that produce the greatest influence on the demand for travel and the distribution of trips in a region are the type, density, and location of development, both residential and commercial. Travel demand is greater in urban areas than in rural areas because of the higher concentration of residential and commercial development in urban areas. The pattern and concentration of these trips will be determined by the characteristics of the available networks of streets, sidewalks, paths, etc., as well as the availability and feasibility of potential modes of travel such as auto, carpool, bus, bicycle, etc.

The King County road system is comprised of many networks. Local networks allow circulation and access to houses in neighborhoods; arterial networks connect these local networks with more distant destinations. Freeways with limited access facilitate regional travel.

Local, arterial, and freeway networks allow people to travel throughout the region, within, between, and through both urban and rural areas. Trips go freely across the UGA, through rural and urban areas, depending on the travelers' destinations. People travel from outside the county to destinations within the county, and vice versa.

The county's urban and rural areas form a complex landscape, and the urban/rural boundary is not a simple straight line. Designated urban areas abut rural lands, and some urban areas are entirely surrounded by rural area. As a result, the county's arterial network weaves its way through both urban and rural communities as it facilitates regional mobility.

This complex urban/rural pattern presents specific challenges to planning for the region's arterial needs and providing safe and adequate roadways. One of the important issues heard frequently during the public outreach process for this plan concerns arterials between designated urban areas separated by rural lands, roads in rural areas that run adjacent to urban areas, and roads that feed urban areas from rural areas. In these instances, where arterials connect urban areas or feed to and from urban areas, traffic volumes may be high and require improved facilities to ensure safe and efficient travel.

The division is committed to addressing these and other transportation challenges in a manner consistent with growth management, which envisions different landscapes and infrastructure for urban and rural communities. The strategies and actions in this chapter address several complex land use and transportation linkage issues while ensuring safe and adequate operation of the county's road network.

## **Summary of Strategies**

- |                       |  |
|-----------------------|--|
| <b>Strategy SYS 1</b> | <b>Provide road projects, programs, and services that promote a safe, well-functioning, interconnected arterial road system throughout urban and rural areas.</b>    |
| <b>Strategy SYS 2</b> | <b>Respond to the needs of urban communities for road facilities that support urban densities and encourage multi-modal travel.</b>                                  |
| <b>Strategy SYS 3</b> | <b>Support annexation of urban growth areas and an enhanced level of urban services by coordinating with cities on road needs within potential annexation areas.</b> |
| <b>Strategy SYS 4</b> | <b>Respond to the evolving transportation needs of King County as unincorporated urban areas are annexed by cities or incorporate.</b>                               |

- Strategy SYS 5**      **Provide effective transportation solutions that meet the needs of rural communities and are compatible with Comprehensive Plan goals for limited growth and preservation of rural character.**
- Strategy SYS 6**      **Plan, design, build, and maintain transportation facilities in a manner that respects and enhances the unique aesthetic, historic, cultural, and environmental features of urban and rural communities.**
- Strategy SYS 7**      **Communicate the Road Services Division’s approach to meeting road transportation needs in urban and rural areas in accordance with Comprehensive Plan policies.**

## **Strategies and Actions**

- Strategy SYS 1**      **Provide road projects, programs, and services that promote a safe, well-functioning, interconnected arterial road system throughout urban and rural areas.**

Roads function as an interconnected network. A well-functioning arterial system will facilitate travel safety and mobility and discourage inappropriate cut-through traffic on local or neighborhood roads. In order to promote mobility throughout unincorporated King County and the region and ensure effective road planning and improvements, the division should use a systems or network approach to transportation planning. Facilities and services should be tailored to meet travel demand and be designed to meet the intent of growth management.

- Action SYS 1-1      Use a regional, systems approach to transportation planning and facility development that recognizes land uses and transportation facilities across both the urban and rural areas and seeks to identify appropriate transportation solutions throughout King County.*

Traffic congestion results when road facilities and other modes of transportation are inadequate to handle the demand placed on them. Congestion is common in many parts of unincorporated King County, in both urban and rural areas. In order to address this regional issue, planning should be based on a regional, systems approach to transportation facilities and services and should recognize the unique roles of urban and rural arterials in growth management.

Arterial planning should start with analyses of travel demand across both urban and rural areas. Road solutions formulated to address safety, capacity, and other issues should be identified based on need and location and take into account the unique needs and character of urban and rural areas consistent with growth management goals.

*Action SYS 1-2                      Address safety issues independent of urban and rural designations.*

Protecting the safety of road users is an overarching objective of all division activities. Safety improvements should continue to be prioritized across both urban and rural areas according to need and accepted professional standards. Project designs may differ between urban and rural locations, but safety project prioritization and implementation should not depend on urban or rural designation. For example, the selection of bridge replacement projects is independent of the rural or urban setting of the bridge. The priority of the project depends on the structural condition and operational capabilities of the existing bridge.

Communities should be consulted about perceived safety problems and this input should be used, along with technical analysis, in the prioritization and selection of projects. More information on safety issues can be found in Chapter 9, Roads Safety (page 89).

**Strategy SYS 2                      Respond to the needs of urban communities for road facilities that support urban densities and encourage multi-modal travel.**

*Action SYS 2-1                      Consistent with growth management, focus most congestion relief efforts, such as intersection improvements, traffic signal interconnections, and road capacity projects, to serve the needs of urban areas, while also recognizing the need to provide safety and appropriate congestion solutions in rural areas.*

*Action SYS 2-2                      Focus most pedestrian, bicycle, and transit-related road improvements in urban areas while also recognizing the need to provide safe and continuous facilities and services in rural areas.*

The King County Comprehensive Plan clearly directs the county to concentrate facilities and services within the UGA to make it a desirable place to live and work, to use existing infrastructure capacity more efficiently, and to reduce long-term maintenance costs. It also specifies that the transportation system in the UGA should be consistent with urban development policies and growth targets.

Road improvements that address congestion or provide multi-modal transportation options are especially needed in the urban area and this should be reflected in the allocation of capital resources to meet these needs. The division should target congestion relief efforts, as well as pedestrian, bicycle, and transit-related improvements, to areas where they will serve the most users and/or where alternatives to single occupant vehicle travel may help ease congestion problems. However, sometimes safety needs may require that congestion or non-motorized improvements in the rural area receive a high priority.

The division should use neighborhood-based processes to identify the road-related needs that are important to local residents and businesses. Neighborhood input is particularly valuable when identifying and prioritizing transportation needs related to safety and non-motorized travel (e.g., sidewalks, bike lanes, access routes to transit). A combination of locally

generated project ideas and appropriate technical evaluation should be used to help forward projects to the division's capital project list.

**Strategy SYS 3      Support annexation of urban growth areas and an enhanced level of urban services by coordinating with cities on road needs within potential annexation areas (PAAs).**

The King County Countywide Planning Policies adopted by the Metropolitan King County Council and the suburban cities of King County state that cities are the appropriate provider of local services to urban areas and that each city shall designate a potential annexation area (PAA), and a schedule for providing urban services and facilities within the PAA.

Unincorporated urban areas within a city's PAA are encouraged to join that city in order to receive urban services. Where annexation is inappropriate, incorporation may be considered. In accordance with these policies, King County expects an eventual transition of the urban areas from county government to city government through annexation and incorporation and is actively encouraging cities to annex their PAAs to bring urban levels of service to those communities.

*Action SYS 3-1      Coordinate and communicate with cities, including rural cities and towns, about their vision for their PAAs and how the county and city can best coordinate on road projects and related issues within PAAs to help meet that vision.*

Infrastructure is often an important factor in city decisions regarding annexation. Cities typically have preferences and standards for roads that differ from the county's (or even other cities'). They also have a high level of interest in projects the county plans to build in the PAA. The division and cities need to communicate prior to annexation about each city's future plans for its PAA and how the city and county can coordinate on road issues to help achieve those plans. A dialog of this nature could facilitate annexation and smooth the transition in road responsibilities.

PAAs of rural cities and towns are also considered under the King County Comprehensive Plan to be part of the Urban Growth Area for purposes of land use and facility needs, although their urban services, residential densities, and mix of land uses may differ from those of PAAs west of the Urban Growth Area Boundary. These areas should be the topic of city-county discussions on transportation issues similar to other city PAAs, except that they may require special focus on annexation phasing, rural character, and environmental or other issues unique to their rural settings.

*Action SYS 3-2      Where appropriate, negotiate alternative road standards with cities as part of a pre-annexation interlocal agreement. Alternative standards should be equivalent to or exceed the requirements of the King County Road Design and Construction Standards.*

In previous discussions about annexation plans, several cities have indicated a desire to work with King County to find a way to allow new development within PAAs to build roads using standards similar to city standards rather than county standards. This would allow the roads in the PAA to be consistent with city roads after annexation. Pre-annexation agreements between cities and the county provide a mechanism for negotiating target timeframes for annexation as well as service, infrastructure, and other issues. Road standards for new development within PAAs could be an item negotiated through a pre-annexation interlocal agreement and may provide an additional incentive for cities to commit to a timeframe for future annexation.

*Action SYS 3-3      Where appropriate, provide capital project investment incentives to encourage cities to annex land within their PAAs.*

To help further support annexation, certain road improvement projects in PAAs could be offered as incentives to cities to encourage them to commit to a timeline for annexation and negotiate pre-annexation agreements with the county. These projects should be of a discretionary nature; for example, sidewalks or other enhancements, rather than regional transportation corridor improvements or critical safety projects that should not be tied to annexation plans.

*Action SYS 3-4      Where necessary, negotiate with cities to adjust their boundaries to eliminate unincorporated road right-of-way islands and provide for a consistent level of urban services on the affected roads.*

Unincorporated road right-of-way islands are places where a small segment of the road remains under the county's jurisdiction while the surrounding road and community have been completely annexed or incorporated. Often these islands consist of only one side of the street and are just a few blocks long. They are sprinkled throughout the county as a result of various factors, including prior incorporation and annexation laws that have since been corrected.

Road right-of-way islands present several problems. They are difficult for the division to maintain due to their distance from other county service areas. They create confusion among law enforcement, utilities, and other agencies that need clarity about jurisdiction boundaries. They can also create complex liability issues for the county and adjacent cities when accidents occur. The division is very interested in alleviating these problems by encouraging cities to adjust their municipal boundaries to include these road segments. When appropriate, the division may need to create incentives that encourage cities to assume responsibility for these roads that are used primarily by their residents and businesses.

**Strategy SYS 4      Respond to the evolving transportation needs of King County as unincorporated urban areas are annexed by cities or incorporate.**

*Action SYS 4-1      Adjust road projects and services as the composition of unincorporated King County changes.*



As this plan is being prepared, King County has jurisdiction over a substantial urban unincorporated area with many transportation needs. The division's current Capital Improvement Program reflects an intensive effort to respond to those urban needs as well as to many pressing rural needs. In the future, as annexations or incorporations decrease the urban unincorporated area, the division's capital improvement and operating programs will likely shift to reflect a new focus on addressing a wider range of road needs in the rural area, including aging infrastructure and urban connector arterials, as well as an ongoing involvement and leadership in regional transportation issues. Future updates to this plan will need to reflect the changing composition of unincorporated King County.

**Strategy SYS 5      Provide effective transportation solutions that meet the needs of rural communities and are compatible with Comprehensive Plan goals for limited growth and preservation of rural character.**

The Comprehensive Plan specifies that a low growth rate is desirable for rural areas and that all possible tools may be used to limit growth in the rural area. According to the plan, roads in the rural area should receive the minimal infrastructure improvements needed to serve low levels of residential development, protect basic public health and safety, protect the environment, and be financially supportable at rural densities. Road improvements in rural areas should not unnecessarily create additional capacity for new growth.

Rural areas have significant transportation needs that must be addressed in order to provide a safe, well functioning system. In order to meet both rural needs and Comprehensive Plan objectives, the division must consider growth management issues during all processes used to plan and implement road improvements.

*Action SYS 5-1      Conduct a comprehensive analysis of arterials in rural areas, especially arterials that serve as regional corridors between or to urban areas, to identify and prioritize congestion problems and determine solutions appropriate to their rural setting. Safety issues related to congestion should be given major consideration in this analysis.*

*Action SYS 5-2      Plan and design road improvements in rural areas to support a rural level of development and not facilitate urbanization. Capital project screening, prioritization, and design should emphasize project alternatives that address rural transportation needs without unduly increasing growth pressure.*

Despite low growth objectives for the rural area, rural communities have grown rapidly in prior years and many rural travel routes have developed serious congestion problems. When roads in the rural area carry a higher volume of traffic than originally intended, congestion is a major safety issue as well as a mobility issue. Residents of rural areas and the division are very interested in developing appropriate solutions for these rural congestion problems.

A comprehensive analysis of rural congestion should be undertaken to investigate problems and develop solution options appropriate to the unique challenges of the rural setting. The analysis should include commute routes from rural areas to urban employment or commercial centers and routes connecting two urban areas by passing through a designated rural area. Unincorporated area councils, rural cities, and rural residents and businesses in the unincorporated area should be consulted during this analysis. When the analysis is complete, potential solutions should be forwarded to the division's capital project screening and prioritization processes for inclusion in the capital needs list. In cases where congested travel routes include segments of state highways, coordination with WSDOT should be initiated.

*Action SYS 5-3      Strive to address road congestion in rural areas with solutions that have the least impact on the rural setting and environment (e.g., signal and intersection improvements rather than road widening) where feasible.*

In addition to avoiding creation of additional capacity for new growth, road improvements in the rural area should minimize environmental degradation and impacts to significant historic, cultural, and scenic resources. In order to achieve these King County Comprehensive Plan objectives, the division should take an approach to road project planning and design that first considers alternatives with least impact before those associated with more impact and expense.

*Action SYS 5-4      Provide road maintenance services in the rural area based on infrastructure preservation needs, safety standards, and volume and type of use.*

Maintenance in rural areas should focus on activities needed to protect public health and safety and the environment and to preserve the infrastructure investment. For example, shoulder mowing should be done to reduce fire hazard, and to maintain visibility at traffic signs, intersections, or driveways, rather than to keep vegetation at a certain height for aesthetic reasons as might be desirable in urban areas. More information on maintenance can be found in Chapter 8, Maintenance and Preservation of Infrastructure (page 83).

**Strategy SYS 6      Plan, design, build, and maintain transportation facilities in a manner that respects and enhances the unique aesthetic, historic, cultural, and environmental features of urban and rural communities.**

Preserving and enhancing the quality of life in both urban and rural areas are major concerns of the King County Comprehensive Plan. A broad range of facilities, services, and amenities is specified for the urban area in order to make it an attractive and desirable place to live and work. In the rural area, which includes King County's resource lands, conservation is called for in order to maintain rural character, provide choices in living environments, maintain a link to the county's heritage, allow farming and resource-based activities, and to protect environmental quality and sensitive resources.

*Action SYS 6-1      In both urban and rural areas, use a road project design process that is sensitive to project location and seeks to balance safety, mobility, enhancement of the natural environment, and preservation of community values.*

Road projects should contribute to the quality of life and the economic vitality of both urban and rural communities. To ensure that road improvements have the intended positive effect on communities, road project design should seek to balance safety, mobility, enhancement of the natural environment, and preservation of community values. Projects should accommodate the unique characteristics of a setting as well as attempt to meet the needs of a variety of users. The division already uses extensive public involvement on most major projects to respond to community needs. This process should be taken a step further by testing a new context-sensitive approach to design of road improvement projects in both urban and rural pilot projects.

According to the U.S. Department of Transportation Federal Highway Administration, “Context sensitive design (CSD) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.” This approach is being tested and is gaining broad acceptance at the federal and state levels. There are many good models of context-sensitive design processes provided in Federal Highway Administration and other engineering or planning literature that could be tested in King County. The process often includes enhanced communication, a multidisciplinary project team, involvement of a full range of stakeholders, and a thorough understanding of the landscape, community, and valued resources before any engineering design begins.

If a context-sensitive approach proves successful in King County pilot projects, the principles should be incorporated more broadly into the division’s regular design process for major projects. If supported by the pilot cases, it may also be appropriate to amend the King County Road Design and Construction Standards to provide the flexibility to implement context-sensitive design more broadly.

*Action SYS 6-2      In urban areas, promote a safe, attractive, walkable, human-scale street environment by providing features such as walkways, bikeways, landscaping, and other amenities where feasible.*

The King County Comprehensive Plan emphasizes making urban areas more attractive and walkable as well as preserving historic, cultural, and natural characteristics and neighborhood identity. Road projects in urban areas should contribute to the quality of neighborhoods through designs that create an attractive street environment, enhance existing community features, and promote walking, bicycling, and community interaction. The specific features and amenities provided should be determined in collaboration with the affected community and in keeping with available budget and any physical right-of-way or other limitations of the project site.

*Action SYS 6-3      Prepare a set of rural character guidelines for road projects to help guide project design and maintenance. The guidelines should address different types of rural uses, such as agricultural areas, forestry, and rural commercial, as well as different rural residential densities, and should build on the rural character definition provided in the King County Comprehensive Plan.*

The Comprehensive Plan emphasizes the need to maintain the character of designated rural areas. For the division to contribute to this objective, clear guidelines for road projects should be available to all staff involved in road planning, design, and maintenance. These guidelines should be prepared using the significant amount of existing work that King County has done on the rural character topic, as well as national planning literature and experiences. Unincorporated area councils should be consulted in developing the guidelines.

*Action SYS 6-4      Strive to preserve rural character while balancing appropriate project design and aesthetic considerations within the limits of available funding.*

Project design features that are sensitive to the character of rural communities can sometimes be more costly than standard design solutions. The division will strive to make each project in the rural area an asset to the community in which it is located while managing costs in order to ensure the project remains financially feasible. In some cases, higher costs for certain projects may necessitate that fewer projects be built in a particular year or funding cycle.

*Action SYS 6-5      Strive to provide all road services in a manner that is sensitive to both the natural environment and the archaeological and historical resources of King County.*

The division should plan, develop, and maintain all road-related facilities in a manner that is sensitive to both King County's environment and its cultural resources. More information on environmental and cultural resource issues can be found in Chapter 10, Transportation Environmental Stewardship (page 97).

**Strategy SYS 7      Communicate the Road Services Division's approach to meeting road transportation needs in urban and rural areas in accordance with Comprehensive Plan policies.**

*Action SYS 7-1      Articulate the differing approaches to addressing road traffic, maintenance, project planning and design, and aesthetics in urban and rural areas using a variety of public communication tools.*

Facilities and services in urban and rural areas differ due to different needs and public policy decisions that the region and King County have made regarding growth management and protection of rural character. The division should seek to more fully explain these differences

and the reasons for them to road users to clarify what they can expect regarding the appearance, function, and improvement of their community's roads. Brochures, information sheets, and the division's Web site are some tools that may be used to make this information more readily accessible to the public.



## Chapter 6

# Congestion Management

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***Goal: Reduce congestion and improve traffic flow.***

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Although concerns about congestion are widespread, there is little agreement on what to do about it. Definitions of congestion often vary due to different perspectives. The U.S. Department of Transportation provides a good general definition:

*The level at which transportation system performance is no longer acceptable due to traffic interference. The level of acceptable system performance may vary by type of transportation facility, geographic location and/or time of day.*

Locally there are many differences of opinion on how much congestion is acceptable. Nevertheless, some common opinions have emerged from public comments and editorials. Most people are willing to tolerate more congestion during peak commute hours than they would during off-peak hours. It is generally perceived that some congestion is inevitable on arterials during peak hours in urban areas. On the other hand, many rural area residents have expressed the opinion that roads in rural areas should be relatively congestion free. People in both urban and rural areas often believe neighborhood congestion is caused by traffic cutting through their neighborhoods to avoid congested arterials, and no one seems to like cut-through traffic or congestion on local, neighborhood roads.

As the region has grown and traffic frustrations have become a more serious public issue, the need for effective strategies for easing congestion and improving mobility has become increasingly apparent. A growing body of evidence suggests that congestion cannot be solved simply by expanding road capacity through adding lanes or widening. Capacity improvements are just one tool. Other important tools include managing traffic so it moves more efficiently on existing roads, improving intersections, and encouraging the use of public transit and other modes of travel. This chapter proposes strategies and actions that will help the division deal most effectively with the complex and highly challenging congestion issues facing the county.

### Summary of Strategies

**Strategy CGN 1      Take a regional, systems approach to congestion management and transportation planning.**

- Strategy CGN 2**      **Use a congestion management system to help identify and prioritize projects. The system should be developed and overseen by an interdisciplinary, intradepartmental team, and should be compatible with and complementary to the King County Transportation Concurrency Management Program and the Puget Sound Regional Council's congestion management system.**
- Strategy CGN 3**      **Consider ITS and other travel demand management strategies, such as those that encourage use of transit or other non-single-occupancy-vehicle modes, before considering operational or intersection improvements and projects that add capacity to the road system.**
- Strategy CGN 4**      **Direct traffic away from local neighborhoods and onto arterials by considering functional classification of roads as well as character of the surrounding area when planning and selecting projects for congestion relief.**
- Strategy CGN 5**      **Coordinate systems analysis and planning for congestion management with other internal functions—in particular, with development of King County Comprehensive Plan major updates and Transportation Concurrency Management Program implementation and maintenance.**

## Strategies and Actions

- Strategy CGN 1**      **Take a regional, systems approach to congestion management and transportation planning.**

A systems approach to congestion management uses transportation system performance standards and criteria to evaluate the effectiveness of the transportation system as a whole—including all modes—in serving the mobility needs of a population. Congestion is a regional issue. The road network is a system and traffic freely crosses jurisdictional boundaries. Development permitted in one jurisdiction will produce traffic that affects other jurisdictions where different level-of-service standards may have been adopted. The traveling public is not usually sensitive to these jurisdictional issues and understandably wants to travel on a seamless road network that is safe, convenient, and reasonably free of delay caused by congestion. Where standards are consistent across jurisdictional boundaries, it is easier to define measures and prioritize projects to improve traffic flow.

- Action CGN 1-1*      *Use a countywide travel demand forecasting model to analyze needs and deficiencies and to test potential project scenarios.*



Travel demand forecasting software was developed to simulate travel patterns and replicate the transportation planning process. Forecasting software has a long history in transportation planning and has become more sophisticated over the years, incorporating much useful information from studies about travel behavior. In travel demand forecasting, the computer model converts population, households, and employment into trips and distributes those trips to small area zones throughout the county and, subsequently, to the road network itself. As the name implies, the model's primary purpose is to forecast future travel demand. When this demand is compared to a road network comprised of the existing road system modified to include capacity projects that have committed funding, future capacity needs are highlighted. The model can be used to test different road improvement scenarios or even the travel demand effects of different demographic scenarios. Model results can be used in prioritizing traffic improvement projects and making funding decisions for projects that add capacity to the road system.

When used for transportation planning, model results are generally projected to a long-term horizon, typically 20 or 30 years. This makes them a useful tool for developing the capacity portion of a long-term capital program such as the Transportation Needs Report. Other planning tools are needed to develop nearer-term programs for transportation improvement.

*Action CGN 1-2      Include and analyze data and project information from other jurisdictions in a systems approach to long-term program and project planning, using the travel demand forecast model to help identify future system capacity needs.*

The travel demand forecasting model is used to forecast travel demand from one area to another and to simulate travel speed, time, and volumes along different road networks. It may be used for a variety of projected land use scenarios, thereby providing a valuable tool for testing the effects of different growth scenarios on travel demand and traffic.

To accurately forecast future travel demand, the model must be calibrated and shown to reproduce travel volumes for a base year for which empirical data exists. Base year data are compared to model results in the model calibration process. If the model calibrates well, it can be trusted to forecast future traffic volumes.

Since traffic from one jurisdiction freely crosses boundaries into other jurisdictions, it is imperative that data on population, households, employment, and traffic be available from incorporated areas as well as the unincorporated area and used in model development and calibration. In addition to data from the many jurisdictions within King County, data from neighboring counties must also be included in the model to achieve accurate results.

*Action CGN 1-3      Establish and maintain links with other jurisdictions to facilitate routine, periodic collection of traffic count data needed for corridor planning and to calibrate the countywide travel demand forecasting model.*

The division has a traffic count system in place which is used to collect traffic counts at regular intervals at certain locations. Other jurisdictions also have traffic count systems in place, and the quality and extent of traffic counts in those jurisdictions varies. In addition, it is not always easy for King County to access traffic count data from other jurisdictions in a timely manner. Since traffic is not confined to the boundaries of one jurisdiction, the travel demand forecasting model must include data from other jurisdictions to accurately forecast traffic volumes on roads in unincorporated King County. Ongoing efforts are needed to facilitate routine traffic count data collection from other jurisdictions.

*Action CGN 1-4      Pursue coordination and compatibility of the King County Transportation Concurrency Management Program with concurrency systems in other jurisdictions. Investigate the potential for providing concurrency management services to other jurisdictions, and where feasible enter into interlocal agreements to provide such services.*

The Transportation Concurrency Management Program uses level of service standards for critical segments and congestion scores for broader geographic Transportation Service Areas, and focuses on a 6-year horizon. Under the existing concurrency system, King County tests each development application to determine if the development complies with the county's adopted level of service standards. If the proposal is found to comply with these standards, it will be granted a concurrency certificate and may proceed with the building permit application and approval process. If the proposal fails the concurrency test, it will be denied a concurrency certificate and will be unable to proceed with the building permit application process.

All jurisdictions are affected by traffic from other jurisdictions, and the various cities within King County do not necessarily have the same level-of-service standards. Pursuing interlocal agreements for concurrency can help the division achieve some consistency of standards. In addition, interlocal agreements for concurrency can help the division plan and implement road projects that better accommodate countywide travel demand.

The Concurrency Management Program is a good tool for determining where the road system is deficient in capacity or where it is nearing deficiency. This information can then be used to help develop near-term programs for transportation improvement such as the six-year Roads Capital Improvement Program. Because the horizon for the concurrency test is very near term, other tools must be used to identify long-term needs.

**Strategy CGN 2      Use a congestion management system to help identify and prioritize projects. The system should be developed and overseen by an interdisciplinary, intradepartmental team, and should be compatible with and complementary to the King County Transportation Concurrency Management Program and the Puget Sound Regional Council's congestion management system.**

A congestion management system combines information, reporting, and strategies designed to alleviate congestion and enhance the mobility of persons and goods. The information can be a variety of data (accident rates, traffic volumes, travel speeds, etc.) relevant to transportation system performance. Such a system can help identify strategies for providing more efficient and effective use of existing and future transportation facilities. One of the main purposes of a congestion management system is to provide decision makers with a better understanding of existing and anticipated system performance and with better information on the effectiveness of congestion management strategies.

A comprehensive congestion management system would provide a longer-term focus for use in project programming and planning and would include benchmarks and performance measures. It would provide a consistent tool to assist in prioritizing projects and in management decision-making. Information from the system could help keep the public informed about the functioning of the transportation system as a whole, the reasons certain project and funding choices are made, and the progress being made toward improving the transportation system. Many components of a congestion management system already exist within the division and are being used on a daily basis. These existing components should be incorporated and built upon to create a comprehensive congestion management system.

*Action CGN 2-1      Develop benchmarks and performance measures for use in monitoring and evaluating the transportation system.*

Monitoring congestion on the transportation system using benchmarks and performance measures will serve two main purposes: 1) it will track the effectiveness of recommendations over time, and 2) it will continue data collection efforts to support and refine the congestion management system. Tracking the effectiveness of recommendations will give decision makers a better tool for improving performance of both the congestion management system and the transportation system. Performance measures will incorporate level of service standards used in the Concurrency Management Program.

*Action CGN 2-2      Continue to use the latest available Highway Capacity Manual (Transportation Research Board) or an alternate method approved by the division director for technical guidance in measuring and analyzing congestion.*

The county has traditionally used volume to capacity ratios, or V/C, and level of service analysis as indications of congestion. V/C ratios compare traffic volumes on roads to road capacity resulting in measures of congestion. Level-of-service converts V/C ratios to a qualitative rating of congestion ranging from level-of-service A, representing free flow conditions, to level-of-service F, representing severely congested conditions. Volume-to-capacity ratios and other highway-oriented level of service measures are intended to quantitatively and qualitatively estimate the congestion perceived by the traveler and will continue to play an important role in measuring congestion and analyzing system performance.

In addition to congestion measures based on traffic volumes and system capacity, measures of travel time, speed, and delay can be used to represent congestion. Travel time measures can be compared across modes and are easily communicated to the public and decision-makers. Many other jurisdictions are using delay as the basic measure of congestion. Clark County and the cities of Renton and Vancouver are using travel times as a measure of congestion and concurrency in their respective traffic management programs. The Washington State Department of Transportation is using travel times to measure congestion on its freeways. The City of Redmond is studying travel times as a possible measure of congestion. King County is also developing travel-time based level-of-service measures for use in the Concurrency Management Program.

While travel time measures are not likely to completely replace V/C ratios, they can provide a useful gauge of congestion particularly in corridor analysis and should be considered for incorporation into the transportation program planning and development processes.

*Action CGN 2-3      Make regular reports on the performance of the transportation system to county decision makers and the public.*

Reporting on system performance at regular intervals will show decisions makers and the public how well the system is performing and the effects of projects as they are completed. A better-informed public will help the division develop needed support for programs and projects. Reports can be very simple and can be made available both as printed documents and on the division's Web site.

**Strategy CGN 3      Consider ITS and other travel demand management strategies, such as those that encourage use of transit or other non-single-occupancy-vehicle modes, before considering operational or intersection improvements and projects that add capacity to the road system.**

Intelligent transportation systems (ITS) collect, store, process, and distribute information about the movement of people and goods. Examples include traveler information, traffic flow management, emergency (including incident/accident) management, public transportation management, and many others.

Roadway capacity increases are often the most costly approach to addressing traffic congestion and can be very disruptive to the environment and community during implementation, partly due to right-of-way requirements and resultant environmental considerations. In addition, there are environmental and conservation benefits to travel demand management, ITS, and encouraging use of transit and high-occupancy vehicles. Although the most appropriate way to address some transportation problems will most certainly include a capacity increase, it may be possible to achieve greater efficiencies in resource allocation and greater system productivity by applying other measures first.

*Action CGN 3-1      Use and expand the system of traffic cameras to provide real-time traffic information to operators, the media, and the traveling public.*

A system of traffic cameras that provides information over the Internet helps travelers in King County make mode choices, travel time estimates, and route decisions before they depart. This system will be expanded, and a new countywide traffic control center will control traffic operations on arterials, streets, and roads in the rural areas and urban unincorporated areas of King County. In addition, the traffic control center will be used to manage flow for other jurisdictions on a contractual basis. Control center staff will monitor the real-time traffic conditions and can intervene quickly to deal with emerging problems. They adjust traffic signal timings, dispatch enforcement personnel, and advise motorists. Upon detection of an incident or disruption to the flow of traffic, they can notify the appropriate authorities to address the problem. The cameras are a public safety tool and are not intended to identify speeders or enforce traffic laws.

*Action CGN 3-2      Develop and review capacity improvement project scenarios by transportation corridor including corridor travel time measures and estimates to help evaluate relative benefits.*

Travel time measures and estimates can be used to assess the effects of different transportation improvement scenarios proposed for the same corridor. They can also be used along with other factors to prioritize groups of projects by corridor. Although the accuracy of travel time estimates can vary widely depending on methodology and assumptions, using the same methodology for analyzing different scenarios for the same corridor can highlight relative differences in travel time between scenarios and assist in long-term capital planning prioritization.

*Action CGN 3-3      Use interlocal agreements for implementing transportation investments within corridors that cross jurisdiction boundaries.*

Many potential roadway improvements cross jurisdiction boundaries, and those that do not still have an effect on traffic in neighboring jurisdictions. Travel corridors are regional and become fragmented when approached only in terms of a single jurisdiction.

To be most effective in improving traffic flow, signal timing and synchronization projects must be implemented throughout corridors that may span several jurisdictions. Other projects may also affect traffic flow across jurisdictions and should be reviewed for these effects. For example, improving an intersection in one jurisdiction may relieve congestion in another jurisdiction “downstream”. In some cases a project in another jurisdiction may benefit King County enough to merit county support, which could take the form of advocacy for the project, assistance in applying for grant money, or in some cases a financial contribution.

**Strategy CGN 4      Direct traffic away from local neighborhoods and onto arterials by considering functional classification of roads as well as character of the surrounding area when planning and selecting projects for congestion relief.**

Functional classification is the designation of highways, roads, and streets into groups or classes according to the type of service they are intended to provide. This helps define the part that any individual road will play in serving the flow of traffic through the road system.

King County categorizes arterials into three classes: principal, minor, and collector. Principal and minor arterials provide movement between and across large subareas with limited access to abutting development. Collector arterials provide movement within smaller areas and link the arterial system to local neighborhood streets. Traffic should be directed onto the appropriate arterial road network and away from neighborhoods through careful project planning.

*Action CGN 4-1      Focus most capacity increases on arterials away from neighborhoods. Where capacity increases are needed on arterials abutting neighborhoods, use design features and consolidate or limit access to abutting development.*

In some cases, capacity increases are necessary due to traffic volumes and for safety reasons. Sometimes such increases on arterials will help reduce traffic on nearby local roads by reducing the amount of traffic cutting through neighborhoods to avoid congested arterials. In some cases, capacity increases are needed to accommodate traffic from one urban area to another across or adjacent to rural areas. Those urban areas can be in unincorporated King County, in cities, or in other counties.

**Strategy CGN 5      Coordinate systems analysis and planning for congestion management with other internal functions—in particular, with development of King County Comprehensive Plan major updates and Transportation Concurrency Management Program implementation and maintenance.**

Transportation planning and related functions are found in several divisions and sections of the King County Department of Transportation. While some efforts are made to coordinate planning and share information, these important activities should be done in a timely, well-coordinated, and comprehensive manner to achieve the most efficient and effective results.

*Action CGN 5-1      Establish an interdisciplinary staff team to coordinate transportation planning within various divisions and sections of the King County Department of Transportation to improve products, reduce duplication of efforts, and support the department's mission and goals.*

A formalized coordinated process consisting of an interdisciplinary team from all the different sections, work units, or divisions working on related transportation issues would facilitate communication and coordination of effort, resulting in greater efficiencies and improved products. At periodic meetings, the team would discuss ways to coordinate related work to create high-quality products and achieve efficiencies.

*Action CGN 5-2      Strive to coordinate the timing of major travel demand forecasting model updates with major Comprehensive Plan updates and other planning functions that require travel forecasts and analysis.*

Many transportation planning activities require forecast information, and these forecasts must be updated periodically. Efficiencies can be achieved, and products improved, by coordinating the timing of updates and, where possible, using information from the same travel model run to serve the needs of more than one planning project. Travel forecasts must also be periodically updated for the King County Comprehensive Plan. Coordinating the timing of major Comprehensive Plan updates with the schedule for major updates to the countywide travel-forecasting model would reduce duplication of effort and improve the quality of forecasts in the Comprehensive Plan.





## **Chapter 7**

# **Transportation Alternatives**

Transportation alternatives include modes of transportation other than the personal car, including public transportation, bicycling, walking, horse riding, and use of high-occupancy vehicles (HOV) (e.g., vanpools and rideshare) as well as strategies such as transportation demand management (TDM). This chapter focuses on strategies and actions to enhance access to, and use of, these alternatives as a means to promote mobility options and reduce dependency on drive-alone vehicle use.

The importance of alternative transportation modes increases annually. More motorists use the region's roads every year, and drive more miles. At the same time the cost of providing improved transportation facilities continues to rise while financial resources remain limited. Some roads have reached the limit beyond which additional physical improvements no longer make sense. Many of the region's major facilities are functioning at or beyond their designed capacity and congestion is widespread. The transportation modes addressed in this chapter provide a variety of mobility choices and alternatives to drive-alone congestion, particularly in urban areas.

The King County Comprehensive Plan includes numerous transportation alternatives policies that guide the county's mobility options efforts. The strategies and actions in this chapter are consistent with, and enlarge on, the intent of these policies.

The division's role varies with respect to alternative transportation modes. In many instances it has direct responsibility (e.g., improving bicycle facilities or sidewalks). In other instances, the division cooperates with King County Metro Transit or other organizations. Metro Transit operates the countywide bus system and provides many facilities and programs that promote bus use and reduce single-occupancy vehicle use, and this chapter includes strategies for working with Metro Transit on these endeavors. Other organizations, such as bicycle advocacy groups, provide important information and feedback on non-motorized transportation needs, projects, and programs, and the strategies direct the division to work with these organizations to enhance alternative transportation options.

The chapter is divided into three sections: 1) Public Transportation, TDM, and HOV; 2) Bicycles and Pedestrians; and 3) Equestrians. Each section includes division goals, strategies, and related actions. The first section focuses on the division's efforts in support of transit and demand management. The second addresses issues associated with bicycle and pedestrian facilities, and the third details strategies and actions that support equestrian activities within designated equestrian communities.

## Public Transportation, TDM, and HOV

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***Goal: Support transit, high occupancy vehicle use, and transportation demand management strategies to maximize travel options and reduce single-occupancy vehicle use.***

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The King County Comprehensive Plan calls for support of public transportation, TDM, and HOV use, and the division can make a significant contribution toward meeting this goal. Division programs and services already support transit by providing the necessary road facilities in unincorporated urban areas and making road improvements that reduce congestion. This section provides strategies and actions to substantially enhance the division's work with King County Metro Transit, the county's public transportation agency. These strategies stress working with Metro Transit to improve road facilities, promote signal priority systems, and enhance the efficiency and effectiveness of transit.

TDM seeks to reduce demand for road facilities while encouraging use of alternatives to the single-occupant vehicle for daily mobility. Demand management may take the form of incentives for commuters to share rides, take transit, bicycle, walk, or find other ways to travel besides driving alone. By reducing travel demand, TDM reduces congestion and the need for costly new transportation facilities. The division currently supports TDM efforts by providing facilities that promote the use of alternative transportation modes, including transit, bicycles, and walking. The division's support for bicycling via the publication of the King County Bicycling Guide Map and RoadShare activities (see the Bicycle and Pedestrian section, page 72) is a good example. This section provides additional direction to explore TDM measures in conjunction with Metro Transit's many existing programs.

This section also addresses the division's limited role in the provision of HOV facilities in support of the State of Washington's core HOV system. HOV facilities are intended to provide priority travel for vehicles carrying more than one occupant. The majority of HOV lanes in King County are on state roadways, including interstate highways, but long-range regional transportation plans include a limited role for the county in providing supporting facilities for the state core system. This section identifies actions to facilitate planning for this role.

## Summary of Strategies

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|-----------------------|---|
| <b>Strategy TRA 1</b> | <b>Collaborate and coordinate with King County Metro Transit to enhance capital planning and development for roads and transit.</b>     |
| <b>Strategy TRA 2</b> | <b>Work with King County Metro Transit and other agencies to promote the use of transit signal priority systems within King County.</b> |

- Strategy TRA 3**      **Team with King County Metro Transit and other agencies to enhance the efficiency and effectiveness of public transportation in important arterial corridors.**
- Strategy TRA 4**      **Collaborate with King County Metro Transit on measures to increase use of transit and ridesharing and reduce the demand on existing roads and the need for new roads.**
- Strategy TRA 5**      **Provide limited improvements where appropriate to support the regional core high-occupancy vehicle (HOV) lane system.**

## **Strategies and Actions**

- Strategy TRA 1**      **Collaborate and coordinate with King County Metro Transit to enhance capital planning and development for roads and transit.**

*Action TRA 1-1      Establish a collaborative planning and review process for capital projects that includes Road Services Division planners and project managers and Metro Transit staff.*

Supporting public transportation and managing the demand for transportation facilities and services have been express goals of the county since its first Comprehensive Plan.

Establishing a collaborative process for capital facilities planning could ensure that proposed new Road Services CIP projects include road designs that support transit. Similarly, Metro Transit could share their CIP plans and other data with the division for use in evaluating and prioritizing projects, including cooperative projects such as road or non-motorized projects related to park-and-ride facilities.

In areas where Metro Transit operates or foresees operating in the near future, involving both Road Services and Metro Transit staff in the planning and review of new CIP projects would allow the Department of Transportation to better coordinate improvements to meet the goals of both divisions. This would give the division an opportunity to provide more transit-supportive planning, design, and development, and allow Road Services staff to work with Metro Transit staff on strategies to limit the demand for new roadways.

- Strategy TRA 2**      **Work with King County Metro Transit and other agencies to promote the use of transit signal priority (TSP) systems within King County.**

*Action TRA 2-1      Coordinate with Metro Transit on all new traffic signal installations and upgrades within unincorporated King County to ensure that TSP-capable traffic signal control equipment is installed at the most beneficial locations and at the lowest cost.*

TSP has the potential to provide significant benefits to transit operations throughout King County. TSP systems give priority to buses at important intersections, reducing travel time and improving bus reliability. With these improvements, bus transit becomes more efficient and reliable, increasing its popularity.

*Action TRA 2-2      Ensure that TSP systems in unincorporated King County are well maintained and fully utilized.*

The division should maintain TSP hardware and include TSP timing in all corridor optimization projects under its jurisdiction where it has been determined to be feasible. The division should develop online tools that report the traffic control system response to requests for signal priority and should give Metro Transit direct access to this data for system monitoring and assessment. Adequate technical training and resources should be allocated to support this effort.

*Action TRA 2-3      Coordinate with Metro Transit to promote the deployment of TSP systems throughout King County by pursuing opportunities to supply operations and maintenance services throughout the region.*

Because of its related TSP experience in the City of Shoreline, the division is in a unique position to help Metro Transit promote the use of TSP systems in this region. Metro Transit is sponsoring the regional TSP initiative and is planning to undertake its first Bus Rapid Transit (BRT) project. Agreements between Metro Transit and participating cities will require the cities to own and operate all TSP equipment once the systems have been installed and tested. Allowing these cities to purchase operations and/or maintenance services from the division would help promote the use of TSP systems.

*Action TRA 2-4      Seek to serve as engineering coordinator and advocate to Metro Transit and local cities for the incorporation and operation of TSP systems.*

Where appropriate, serve as traffic engineering coordinator and advocate with Metro Transit and local cities for the incorporation and operation of TSP systems. In this capacity, research and test promising TSP strategies to support the most efficient and reliable transit services.

**Strategy TRA 3      Team with King County Metro Transit and other agencies to enhance the efficiency and effectiveness of public transportation in important arterial corridors.**

*Action TRA 3-1      Coordinate with Metro Transit to provide transit-supportive and multi-modal facilities in identified regional corridors, including urban connector roads.*

In unincorporated areas where transit options are limited (e.g., rural areas), transit-supportive facilities should be designed commensurate with service and needs. These facilities may

include pedestrian walkways, bicycle lanes, and other improvements that increase access to transit stops and provide support for public transportation. A corridor development approach should focus transit-supportive development in identified corridors within or between urban areas or areas of greater population density. While a blanket approach to transit and supportive facilities standards may not make sense in rural areas, some rural corridors may have segments that need to provide multi-modal opportunities. The division and Metro Transit should coordinate on planning and development of such facilities.

**Strategy TRA 4      Collaborate with King County Metro Transit on measures to increase use of transit and ridesharing and reduce the demand on existing roads and the need for new roads.**

*Action TRA 4-1      Collaborate with Metro Transit Market Development to identify and provide transportation demand management partnership opportunities concurrent with new development in an effort to increase roadway efficiencies and reduce traffic impacts.*

Transportation demand management (TDM) strategies create partnerships that increase the use of transit and ridesharing and reduce the use of single-occupant vehicles. Where appropriate, Road Services and Metro Transit should coordinate with jurisdictions along important arterial corridors to introduce and coordinate TDM programs and policies. Strategies may address either the origin or destination ends of vehicle trips. The division should coordinate with Metro Transit Market Development to propose TDM strategies for trips associated with road construction or new land use developments. Metro Transit should continue to provide TDM coordination through its Commute Trip Reduction and many other TDM programs. Advance coordination may take place during roads CIP project development or via the development review process in conjunction with the King County Department of Development and Environmental Services.

*Action TRA 4-2      Explore the potential benefits of multi-modal travel demand modeling.*

The transportation modeling software that the division currently uses is capable of modeling transit demand as well as vehicle demand. The division should identify whether multimodal modeling would provide useful products or services that can be applied to road and transit planning and decision making.

**Strategy TRA 5      Provide limited improvements where appropriate to support the regional core high-occupancy vehicle (HOV) lane system.**

*Action TRA 5-1      Identify county facilities that are envisioned as parts of the long-range future regional HOV network and ensure that the proposed improvements are included in the updated Transportation Needs Report.*

Proposed future regional HOV facilities are identified in Puget Sound Regional Council's *Destination 2030*, the long-range transportation plan for the central Puget Sound region. The plan proposes a limited set of HOV facilities for roads in unincorporated King County. Most of these proposed improvements would support an expanding regional core HOV lane network under development by the Washington State Department of Transportation and other jurisdictions. Potential future HOV improvements have been identified in the existing King County Transportation Needs Report. Such projects should continue to be included in the Transportation Needs Report, and new HOV projects should be identified and listed when they are appropriate and consistent with future regional plans.

*Action TRA 5-2      Identify appropriate HOV criteria and incorporate these criteria into the long-term facilities planning and prioritization (i.e., the TNR) process.*

The King County Comprehensive Plan directs the division to consider the most cost-effective improvements, including HOV improvements, before higher-cost capital projects. HOV improvements include signage, signal prioritization, and HOV lanes. Criteria for deciding whether to add HOV facilities should be identified, clearly articulated, and incorporated into the King County roads planning and prioritization process associated with the Transportation Needs Report. These criteria may be based on consistency with long-range regional transportation plans, proximity to other existing or planned HOV facilities, support of the state's regional HOV core network, available right-of-way, potential conflicts with other existing or proposed facilities (e.g. bicycle lanes or pedestrian walkways), or environmental constraints.

*Action TRA 5-3      Identify potential new HOV improvements on roads in unincorporated King County according to articulated criteria.*

Where appropriate, new HOV improvements may be identified using the criteria developed under Action TRA 5-2, above. These improvements should be added to the Transportation Needs Report along with currently planned HOV improvements.

## **Bicycle and Pedestrian**

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***Goal: Provide bicycle and pedestrian facilities and services that enhance safety and increase mobility options.***

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Bicycling and walking are important modes of travel with little to no negative effects on air pollution and traffic congestion. These modes of travel provide mobility options for all community members, including the young, old, disabled, low-income, and others who may not or cannot drive. Federal laws, such as the Intermodal Surface Transportation Equity Act (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), include specific requirements that bicyclists and pedestrians be given due consideration in the planning, design, and construction of transportation facilities. King County maintains a legacy of

supporting these non-motorized modes in the Comprehensive Plan, this Roads Strategic Plan, and through other planning and road improvement activities.

Bicycling and walking remain popular, and roads (including associated sidewalks, shoulders, bike lanes, and paths within the road right-of-way) facilitate most of this activity. National surveys indicate that non-motorized trips are taken primarily for social, recreational, or exercise purposes. Personal and/or family errands are also a major reason for bicycling and walking. Commute trips, while important, make up a smaller percentage of total non-motorized trips.

Children are major users of road facilities for bicycling and walking. The Washington State Interagency Committee for Outdoor Recreation (IAC) found that children use roads approximately 77 percent of the time when bicycling and a similar percentage of time when walking. In addition, the IAC predicts that both bicycling and walking will increase over the next decade in Washington state by 19 percent and 23 percent, respectively, and that children's activities will make up most of this increase.

While roads are critical for both bicycle and pedestrian travel, paths and trails are also important. They may also provide an enjoyable and desirable alternative to roads. Both road and trail facilities are necessary components of an integrated non-motorized transportation network.

Keeping bicyclists and pedestrians in mind when designing road facilities is important for safety as well as ensuring mobility options and meeting federal requirements. The division plans, builds, and maintains bicycle and pedestrian facilities in unincorporated King County and collaborates with other agencies on regional non-motorized efforts. The strategies and actions in this chapter address the county's need for safe, convenient, well utilized, and cost-effective bicycle and pedestrian facilities and associated services.

## **Summary of Strategies**

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|-----------------------|--|
| <b>Strategy TRA 6</b> | <b>Develop non-motorized facilities as interconnected networks to ensure multimodal transportation opportunities, consistent with the direction of the King County Comprehensive Plan.</b> |
| <b>Strategy TRA 7</b> | <b>Design non-motorized facilities to be safe, convenient, well utilized, and cost effective as guided by local and national standards and policies.</b>                                   |
| <b>Strategy TRA 8</b> | <b>Encourage bicycling and walking as serious means of everyday transportation by providing information and resources and facilitating dialog with the public.</b>                         |

**Strategy TRA 9**      **Partner with other organizations and agencies to facilitate a consistent and comprehensive regional approach to planning, developing, and promoting non-motorized facilities and activities.**

## Strategies and Actions

**Strategy TRA 6**      **Develop non-motorized facilities as interconnected networks to facilitate multimodal transportation opportunities, consistent with the direction of the King County Comprehensive Plan.**

*Action TRA 6-1*      *Provide networks of bicycle and pedestrian facilities within unincorporated King County that include connections between roads and trails to enhance non-motorized mobility and connectivity countywide.*

Consistent with the King County Comprehensive Plan and the Puget Sound Regional Council's regional transportation plan, *Destination 2030*, the division should continue to develop interconnected networks of bicycle and pedestrian facilities on roads under its jurisdiction. The process should stress connectivity between facilities and should seek to enhance mobility via connections between roads and trails. The networks should recognize important priority routes based on existing and anticipated future use, connectivity, and safety.

*Action TRA 6-2*      *Develop pedestrian and bicycle facilities that provide safe and convenient access to schools, transit, shopping areas, trail systems, and other important community destinations.*

When planning and developing non-motorized facilities for non-motorized transportation in unincorporated King County, the division should give special attention to facilities that help provide safe and convenient access to local community destinations, especially where safety-related improvements are needed.

*Action TRA 6-3*      *Support the development of a regional bicycle priority routes network.*

A "bicycle priority routes" network ensures bicycle access between major destinations and travel corridors to promote cycling and connectivity region-wide. Such a network could include shared roadways (room for bicycles either on the paved shoulder or through widened curb lanes), bike lanes, or shared-use paths and trails. Regional priority routes based on existing and anticipated future use, connectivity, and safety can highlight important roads that are the most appropriate for everyday cycling, including those in need of improvement, while also reinforcing locally developed plans. The division should participate in regional efforts to develop such a system in King County.



*Action TRA 6-4      Wherever feasible, provide non-motorized links within and between communities to increase the viability and attractiveness of walking and bicycling for short neighborhood trips.*

Improving opportunities to walk and bicycle between neighborhoods and between residences, schools, and businesses reduces auto use and dependence as well as local congestion, and promotes health. In particular, school children, the elderly, and the disabled need a safe, non-motorized mode of travel for everyday activities. The inclusion of walkways, paths, or other appropriate pedestrian and bicycle facilities between cul-de-sacs and roads in new subdivisions would promote non-motorized access. The division should work with the Department of Development and Environmental Services to ensure that such links are included in new land use development plans whenever feasible. Opportunities to retrofit existing neighborhoods with such facilities should be explored through ongoing division programs.

*Action TRA 6-5      Complete strategic linkages in the bicycle and pedestrian network through the capital planning process. Include strategic non-motorized projects in the Transportation Needs Report and CIP.*

Strategic bicycle and pedestrian facility needs should be identified by the capital planning process (TNR and CIP processes) along with other important transportation facilities. Of particular importance are critical missing links in unincorporated King County's bicycle and pedestrian system. User input during the strategic planning process indicated a strong interest in filling in these missing bicycle and pedestrian segments. Completion of non-motorized facilities associated with well-traveled corridors and priority routes should take precedence. Other non-motorized facilities linking neighborhoods, schools, businesses, and transit facilities should also be considered.

*Action TRA 6-6      Recognize the King County Regional Trail System as an integral component of the county's regional transportation network.*

The King County Regional Trail System is made up of about 170 miles of non-motorized corridors and access to lands throughout King County, and is used by more than 2.5 million people each year. This formal trail system is managed by the county's Parks and Recreation Division and includes about 125 miles of trail corridors, 110 of them paved, in unincorporated King County. This system is an integral component of the county's transportation network and provides important non-motorized mobility options. Planning and development of the road system should incorporate links to the regional trail system where they are needed and feasible.

*Action TRA 6-7      Update the King County Non-motorized Plan to provide timely guidance for development of non-motorized facilities and programs.*

While the King County Comprehensive Plan superseded many previous non-motorized policies, it does not provide detailed non-motorized policy guidance, all relevant bicycle and

pedestrian-related information, or an updated map of proposed King County bicycle facilities. Consequently, the existing Non-motorized Plan (1993), particularly the map, is still used extensively by county agencies in their decision making. An updated Non-motorized Plan should bring together all of the current information related to the bicycle system, pedestrian facilities, and equestrian links. The plan should update the division's approach to non-motorized transportation and related policies, describe existing conditions, and identify proposed future bicycle, equestrian, and pedestrian amenities.

**Strategy TRA 7      Design and maintain non-motorized facilities to be safe, convenient, well-utilized, and cost effective as guided by local and nationally recognized standards and policies.**

*Action TRA 7-1      Seek to include safe and convenient bicycle and pedestrian facilities on transportation arterial road projects, consistent with the King County Road Design and Construction Standards, unless exceptional circumstances exist. In deciding where to locate facilities, use the most current Federal Highway Administration (FHWA) policies and standards as a guide, while recognizing that local conditions and circumstances must ultimately determine the suitability of each facility.*

The design and life cycle maintenance of road facilities should address bicycle and pedestrian uses. Site-specific constraints, such as environmentally sensitive areas, restricted rights-of-way, and potentially hazardous conditions, may affect the placement of non-motorized facilities, and capital investments in the regional non-motorized system must be prioritized and implemented in the most cost-effective manner possible. The division should use the recommendations of policies such as the 2000 FHWA Policy and Design Guidance as guides to facilities development, but should also recognize that local conditions and circumstances must ultimately determine the suitability of each facility.

*Action TRA 7-2      Apply the most up-to-date professional design standards and practices in the development of King County's bicycle facilities, while allowing flexibility to meet the needs of local circumstances.*

The division uses the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities when designing facilities to accommodate bicycles. This use should continue, and the division should incorporate new AASHTO guidelines in a timely manner whenever they are updated. However, the planning and development process should also allow flexibility to meet specific local circumstances. Continued use of the AASHTO Guidelines along with professional engineering judgment will contribute to a safe, consistent, and professional approach to development of bicycle facilities.

*Action TRA 7-3      Continue to maintain and preserve non-motorized transportation facilities on county road right-of-way to reduce potential road hazards and ensure that existing assets continue to function properly.*

Maintenance and preservation of all road-related facilities, including those used by bicyclists and pedestrians, are cost-effective investments since they ensure efficient performance of the facility well into the future. These efforts can reduce potential road hazards in the short term (e.g., debris on the road) and prevent long-term deterioration of the facility and resulting costly reconstruction.

**Strategy TRA 8      Encourage bicycling and walking as serious means of everyday transportation by providing information and resources and facilitating dialog with the public.**

*Action TRA 8-1      Update the King County Bicycling Guide Map on a periodic basis.*

The King County Bicycling Guide Map is a frequently requested document and a popular feature of the county's Web site. The current map was produced in 1997 in GIS format and updated in 2000 in another graphics software format. Changes to the road network and the need for additional information have created a need to update the Guide Map and the county's GIS system.

*Action TRA 8-2      Upgrade the county's Web site(s) to provide improved and coordinated bicycle information, including external links to relevant organizations.*

The fact that the King County Bicycling Guide Map Web pages are some of the county's most heavily used online resources illustrates the popularity of bicycle information with the public. However, this information is currently spread out in different parts of the Department of Transportation Website. The county should develop a consolidated and well-planned set of online resources for bicyclists. These resources should be relocated, combined, or linked in an appropriate manner to provide a complete and coordinated presentation. The Web site(s) should provide tips, bike-transit information, Guide Map access, and links to nonprofit bicycle organizations as well as background on King County's bicycle policies and other important bicycle-related information. Efforts should be coordinated between the division and Metro Transit.

*Action TRA 8-3      Undertake regular outreach to the community via participation in public bicycle events (e.g., annual Bike Expo and Bike to Work Day), periodically meeting with bicycle organizations and/or individuals to solicit comments about King County's bicycle system, establishing advisory committees when needed, and committing to involving the bicycle community for input on bicycle-related projects and programs.*

Participation in the activities of the bicycle community and biking public is an important aspect of the division's non-motorized strategy. The intent is to enhance communication with the bicycle community to both solicit relevant information and promote the division's non-motorized programs.

**Strategy TRA 9      Partner with other organizations and agencies to facilitate a consistent and comprehensive regional approach to planning, developing, and promoting non-motorized facilities and activities.**

*Action TRA 9-1      Coordinate and partner with other jurisdictions and help facilitate regional non-motorized planning and facilities development efforts.*

King County should continue its legacy of leadership in non-motorized planning and facilities development. The division should participate with other jurisdictions to ensure that regional non-motorized transportation options are planned and developed comprehensively and consistently.

*Action TRA 9-2      Explore partnering opportunities with other King County divisions and departments to identify funding opportunities and ensure a consistent and comprehensive approach to non-motorized planning and development.*

By its nature, non-motorized planning and development lends itself to interagency efforts. Partnering with other King County agencies, such as Metro Transit and the Department of Natural Resources and Parks, may be appropriate for projects that affect not only road facilities but also transit facilities, such as park-and-ride lots and transit centers, or trails. Joint grant proposals are one example of agencies working together to bring non-motorized projects to fruition.

*Action TRA 9-3      Coordinate or partner with bicycling organizations on bicycle planning activities.*

The division routinely undertakes bicycle planning and related activities, and these efforts often benefit from direct input from organizations that represent bicyclists. When mutual goals coincide, the division may also partner with such organizations on specific projects. The division should seek opportunities to involve bicycle organizations and make use of their expertise.

## Equestrian

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***Goal: Support equestrian travel in equestrian communities designated in the King County Comprehensive Plan, with an emphasis on safety and connectivity to the regional trail system.***

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King County has approved several measures in recent years related to equestrian travel, trails, and use of the road right-of-way. The King County Comprehensive Plan 2000 recognized the existence of several large “equestrian communities” in rural King County and provided new policies to support equestrian activities and facilities in these areas. The policies include a requirement that, where off-road trails are not available, roads should accommodate safe equestrian travel within the right-of-way.

The King County Zoning Code was modified in 2001 to include several new sections on the protection and preservation of equestrian trails, including a section on location and design of equestrian paths or soft shoulders along public road rights-of-way. An Equestrian Trails Task Force was established and produced a report which, among other things, recommended that the division develop policies and standards for safe equestrian facilities in the road right-of-way where feasible and necessary to provide key links to community or regional equestrian trails.

The strategies and actions in the following section describe the division’s approach to enhancing equestrian access to, and use of, transportation facilities in equestrian communities.

### Summary of Strategies

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|------------------------|---|
| <b>Strategy TRA 10</b> | <b>Inventory the existing equestrian trail system associated with King County roads in equestrian communities. Identify critical missing links in road rights-of-way.</b> |
| <b>Strategy TRA 11</b> | <b>Accommodate equestrian transportation needs along King County road rights-of-way in designated equestrian communities where appropriate.</b>                           |
| <b>Strategy TRA 12</b> | <b>Retain existing critical equestrian links whenever possible.</b>   |
| <b>Strategy TRA 13</b> | <b>Maintain open lines of communication with users of equestrian facilities to ensure that their ideas and concerns are heard.</b>  |

## Strategies and Actions

**Strategy TRA 10**      **Inventory the existing equestrian trail system associated with King County roads in equestrian communities. Identify critical missing links in road rights-of-way.**

*Action TRA 10-1*      *The division should collaborate with other relevant agencies, including the King County Department of Natural Resources and Parks, and the equestrian community to prepare an inventory of critical equestrian trail links associated with King County road rights-of-way in designated equestrian communities.*

At present there is no comprehensive inventory of equestrian trail links associated with the county's road system. "Critical missing links" are those necessary to complete established equestrian trail networks in designated equestrian communities. They will run within road rights-of-way and/or provide important links between existing facilities. The inventory will be used to preserve, protect, improve, or create equestrian facilities on the identified links when road capital or major maintenance projects are planned. The inventory should be updated as additional links are identified or developed.

**Strategy TRA 11**      **Accommodate equestrian transportation needs along King County road rights-of-way in designated equestrian communities where needed and appropriate.**

*Action TRA 11-1*      *New CIP road projects and major maintenance projects in designated equestrian communities should include provisions for equestrian use where the need exists and where it is safe and feasible to accommodate equestrian travel in the right-of-way.*

While equestrian uses are permitted throughout the Rural Area, the King County Comprehensive Plan designates equestrian communities where continued equestrian uses are particularly supported. Because the established network of equestrian trails in many of these areas has been disrupted by urban development, some important links in the equestrian trail system now must follow county road rights-of-way. This poses a challenge to the division to accommodate safe equestrian use as riders travel to and from trails, riding arenas, boarding stables, homes, and other destinations. Comprehensive Plan policies and recent county code changes require that provisions be made in road capital improvement projects for equestrian uses where needed and appropriate. Topography; available right-of-way; other physical, environmental or safety factors; and cost should all be considered in determining safe and feasible locations for equestrian facilities.

*Action TRA 11-2*      *The division will seek to accommodate both equestrian and other non-motorized uses on road projects within equestrian communities to the extent possible within funding and right-of-way constraints.*

Road rights-of-way may be used for a variety of activities, including vehicle breakdown refuge, bicycle travel, and pedestrian travel. In equestrian communities, horse riding may be added to these activities, depending on location, physical constraints, and need. Ideally, separate equestrian facilities should be provided away from the roadway and shoulder. Where right-of-way is inadequate or other physical or financial constraints prevent provision of separate facilities, a shared facility should be provided to allow horses to share use of the road shoulder with pedestrians, bicycles, and other uses. In these circumstances, a portion of the shoulder may remain soft for equestrian use and a portion may be paved for bicycles and pedestrians. If a shared facility is not possible, conflicts in use should be resolved on a case-by-case basis by the County Road Engineer, taking into consideration the alternative travel routes available to each mode of travel.

*Action TRA 11-3      Equestrian facilities may be provided independent of road CIP projects when funding levels permit or grant funds become available, if they address “critical missing links.”*

The Road Services Division often builds non-motorized facilities as part of larger road improvement projects. In addition, the division should consider stand-alone equestrian projects to address high-priority needs. The feasibility of standalone projects will depend on funding availability and other competing non-motorized needs. A list of potential equestrian projects should be derived from the inventory of critical missing links and/or the King County Non-motorized Transportation Plan in consultation with equestrian user groups and affected communities. Special emphasis could be placed on cost-effective projects that can be accomplished during maintenance activities or that utilize volunteer labor.

*Action TRA 11-4      The division should continue to include standards for equestrian facilities in the King County Road Design and Construction Standards.*

Equestrian facilities standards should continue to be included in the King County Road Design and Construction Standards. These equestrian standards should be based on accepted industry/professional standards, and should take input from equestrian users into account. Existing gravel shoulders along rural roads in designated equestrian communities should be preserved for equestrian use, except where a separate equestrian trail is provided, or the shoulder must be shared with bicycles (in which a shared shoulder may be designated), or where the county Road Engineer determines that extenuating safety considerations prohibit such shoulders.

*Action TRA 11-5      The division should continue to explore and improve equestrian facilities design and construction methods on King County roads.*

As roads are increasingly shared by equestrians, bicyclists, pedestrians, and motorists, it is important to explore innovative facilities designs and construction methods that meet the needs of all travel modes in a safe, efficient, and pleasing manner. In particular, the division should explore new approaches to guardrails, bridges, and shoulder paving materials with

equestrian users in mind, and with the understanding that these facilities must accommodate shared uses.

**Strategy TRA 12      Retain existing critical equestrian links whenever possible.**

*Action TRA 12-1      When selling, transferring, or vacating division properties in designated equestrian communities, the division should determine if the property contains critical equestrian trails. If such trails exist, the division should attempt to either preserve them with covenants/conditions on the property or ensure that the trails are relocated to an adjacent or nearby property managed by the division.*

Stemming the loss of critical equestrian trails is an important goal in maintaining equestrian linkages in designated equestrian communities. To address this issue on lands under the division's control, the county should seek ways to preserve these trails when it relinquishes management authority or ownership. The division should coordinate as needed with other King County agencies (e.g., Department of Natural Resources and Parks) with respect to responsibility for equestrian trail preservation or protection when other agencies assume management. Covenants or conditions of sale are possible approaches when the properties are sold. Another approach might be to provide similar trails on adjacent or nearby division-controlled properties.

**Strategy TRA 13      Maintain open lines of communication with users of equestrian facilities to ensure that their ideas and concerns are heard.**

*Action TRA 13-1      The division should provide ongoing opportunities for equestrians to communicate with King County about road and equestrian issues via public events, the division Web site, and other channels.*

Like other roads interest groups, equestrian users need opportunities to communicate with the division on issues that concern them. The division should collaborate with equestrians to ensure meaningful input on roads-related equestrian projects. Outreach efforts should include public events such as open houses and public meetings, information tables, and Web pages.



## **Chapter 8**

# **Maintenance and Preservation of Infrastructure**

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***Goal: Protect existing infrastructure investments and mobility through maintenance and preservation.***

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Planning and managing road maintenance is a vital part of the division's work. Like any capital investment, a road system must be maintained in a timely manner to minimize life cycle costs and get the maximum long-term benefit from the investment. A well-maintained road system is crucial to an effective commercial delivery system and the economic vitality of a community. Poorly maintained streets and transportation corridors lead to higher costs for motorists, increased maintenance, and more accidents and liability. If roads and traffic control devices are left too long without timely overlays and proper maintenance, they must be completely rebuilt at a much higher cost. Safety can be adversely affected by poor or infrequent maintenance. For example, where roadside vegetation is allowed to grow out of control, sight distance can be shortened. Traffic signs that have been removed or damaged by vandals result in hazards to motorists.

Maintaining the road system includes fixing pot holes, solving problems such as narrow shoulder width or erosion and deep ditches, removing and controlling brush that can interfere with sight distance for drivers, repairing deteriorated roads, maintaining drainage systems, removing ice and snow as well as graffiti, and solving problems of illegal dumping in the right-of-way. In addition, there is a requirement for signal maintenance, traffic control system maintenance, and traffic sign installation and maintenance throughout the road network.

Preservation is defined by the Washington State Auditor as extending the life of the facility without increasing capacity or efficiency. Projects that increase capacity and efficiency are considered capital improvements. Maintenance is defined as keeping the facility as close to original construction as possible while allowing it to meet the designed lifecycle. Inadequate expenditures for maintenance and preservation result in a gradual reduction of the total value of the infrastructure.

## **Summary of Recommendations**

<b>Strategy MNT 1</b>	<b>Strive to support maintenance activities at levels that optimize infrastructure lifecycle and recognize the relationship of maintenance activities to each other and to capital program development.</b>
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- Strategy MNT 2**      **Use an infrastructure maintenance monitoring and reporting system to facilitate clear communication of infrastructure condition level and to support responsible budgeting and funding decisions.**
- Strategy MNT 3**      **Staff and fund maintenance activities at levels that seek to minimize deferred maintenance due to storm events, natural disasters, and/or other unplanned emergency work.**
- Strategy MTN 4**      **Use a programmatic bridge maintenance management and replacement system to prevent loss of bridge inventory and to maintain bridges as a vital part of a seamless, redundant road system.**

## **Strategies and Actions**

- Strategy MNT 1**      **Strive to support maintenance activities at levels that optimize infrastructure lifecycle and recognize the relationship of maintenance activities to each other and to capital program development.**

Maintenance quality and frequency influence infrastructure lifecycle. By including maintenance information in lifecycle calculations, it will be possible to develop more accurate information for use in both capital and operating program planning.

- Action MNT 1-1      Use infrastructure lifecycle replacement cost information when budgeting and staffing maintenance activities and when developing long-term capital program plans.*

When programming capital expenditures, the companion maintenance needs should also be considered. This lifecycle capital and maintenance cost information can be used to assist in programming for efficient use of resources by avoiding having to replace large amounts of infrastructure in a very short period of time. Having to replace disproportionately large amounts of infrastructure in a short period of time often results in disruption to staff and inefficient use of resources.

- Action MNT 1-2      Accommodate the need for more frequent maintenance cycles in areas where traffic levels have increased significantly.*

In recent years, the amount of vehicular traffic in King County has been increasing at a much faster rate than the number of lane miles of roadway. This has resulted in more rapid deterioration of paved roadways. The rate at which pavement wears is influenced by the amount of travel on the roadways and by the mix of vehicles in the traffic flow. Heavy truck traffic results in more wear on pavement than lighter-weight passenger vehicles. Where

traffic flow includes higher percentages of trucks versus automobiles, pavement will wear out sooner. Maintenance standards should be modified to reflect the need for more frequent maintenance resulting from increased vehicle miles traveled on King County roadways.

*Action MNT 1-3      Develop a plan for routine maintenance that includes a description of the relationship of maintenance jobs to each other.*

Many maintenance tasks are interrelated. Not performing one specific task may lead to other more extensive and/or expensive tasks being required. For example, deferring street sweeping could cause debris to build up and clog storm drains, resulting in flooding or other undesirable environmental effects. These maintenance activities should be identified and their effects on other activities should be quantified whenever possible. This information could then be included in a revised maintenance management system and could be especially useful when urgent situations require deferral or disruptions to normal maintenance schedules.

*Action MNT 1-4      Upgrade traffic control systems and components and other systems that require repeated maintenance.*

Upgrading traffic signal control hardware that is more than 11 years old, creating a central traffic systems control center, and interconnecting traffic signals along corridors and isolated intersections can eliminate the need for repeated maintenance of older equipment and likely reduce travel time along these roads. A phased approach to implementing this project would provide the flexibility to build only what is needed, one step at a time. Using the latest computer and telecommunications technology will also increase capability and flexibility.

**Strategy MNT 2      Use an infrastructure maintenance monitoring and reporting system to facilitate clear communication of infrastructure condition level and to support responsible budgeting and funding decisions.**

A certain level of maintenance funding implies certain pavement condition levels and reliability of traffic control devices. Identifying acceptable levels of maintenance allows decision makers to be clearly aware of the probable effects of their funding allocation decisions. A simple and clear periodic evaluation and reporting system could provide an effective way to communicate important information. This system should be designed to show the degree to which optimal infrastructure condition levels are attained. Over time, it would show progress, or the lack thereof, in attaining standards, and could become a valuable management tool.

*Action MNT 2-1      Define and use specific levels of service for roadway maintenance.*

The division's maintenance program uses a pavement management system modeled after one developed by the County Road Administration Board, an agency that oversees county road departments in the state of Washington. The system establishes a pavement condition level

for each road segment maintained by King County. Possible condition levels are poor to substandard, fair, and excellent to good. These ratings are intended to be updated every two years, but in recent years the updates have fallen behind.

The division hired a consultant to help update this system and reestablish the use of condition levels or service standards as part of regular maintenance activities. The consultant's study is comprised of three parts: 1) a survey of other jurisdictions to find out what level of service they use for road maintenance, 2) an evaluation of the condition of the existing road inventory based on a random sample, and 3) a telephone survey of residents in unincorporated King County to find out what level of service citizens desire, i.e., emergency response, removal of snow and ice, road surface condition. As part of the survey, citizens were also informed about the cost implications of different service standards.

*Action MNT 2-2      Provide periodic reports to decision makers and the public on achievement of maintenance goals and condition levels.*

The ultimate customers of the division are the people of King County. Their perception about how well work is being done is vital to the success of the division. To have a good working partnership with the public, clear and accurate information must be provided. This information can be posted on the division Web site and could be included in press releases or report card-like brochures.

**Strategy MNT 3      Staff and fund maintenance activities at levels that seek to minimize deferred maintenance due to storm events, natural disasters and/or other unplanned emergency work.**

Storms, natural disasters, and other unanticipated events require maintenance to reallocate resources to respond to the emergency. Maintenance work required to respond to and repair damages caused by these events temporarily supplants routine ongoing maintenance work. The financial impact of emergency work can be significant.

*Action MNT 3-1      Prepare and support maintenance budgets that provide for sufficient levels of routine maintenance to achieve service standards while also providing for reasonable emergency response.*

Allowing emergency-related work to reduce the overall level of preventive maintenance could result in more rapid deterioration of infrastructure and a bigger backlog of maintenance needs, further straining resources. Additional funding might be allocated when necessary after emergencies to catch up on routine maintenance once the emergency work is finished. This would help facilitate a continuous, proactive approach to routine maintenance and help keep infrastructure maintenance at cost-effective levels.

*Action MNT 3-2      Continue to maintain a flexible labor pool of temporary workers to facilitate emergency response.*

King County already maintains a flexible labor pool of temporary workers. This pool is vital to emergency response and needs. It might be possible to increase the size or skill level of this pool. Internal human resource personnel or perhaps consultant services could be used to analyze this potential.

*Action MNT 3-3      Continue to maintain up-to-date emergency response plans that provide efficient and effective emergency response with the least possible disruption to routine preventive maintenance.*

King County's maintenance staff has a good track record in emergency response. Staff members are skilled and untiring in their response, and the public generally notices and appreciates that response. By keeping its emergency response plans up to date and reviewing the effect of past emergency response on other routine, preventive maintenance activities, it might be possible to better provide for routine maintenance during or following emergencies.

**Strategy MTN 4      Use a programmatic bridge maintenance management and replacement system to prevent loss of bridge inventory and to maintain bridges as a vital part of a seamless, redundant road system.**

Bridges are a necessary and vital part of the road system, but they have different needs from the road segments. One of those needs is for specialized inspections. The loss of a bridge can mean losing an alternate route, resulting in a lack of redundancy in the road system. Loss of redundancy complicates road maintenance activities, which often require detouring traffic around road work. The loss of bridges can also have a negative effect on emergency response time by depriving emergency vehicles of an alternative and sometimes shorter route.

*Action MTN 4-1      Retain special skills needed to perform specialized bridge inspections and maintenance.*

The division has an ongoing bridge inspection program that is consistent with the National Bridge Inspection Standards. Bridge inspection requires special expertise and is done by certified inspectors and assistants. Earthquakes have affected the condition of many local bridges; King County's Bridge Seismic/Load Upgrade Retrofit Program prioritizes bridge retrofits to prevent damage.

*Action MTN 4-2      Pursue programmatic techniques for facilitating permitting for regular maintenance and for replacement of short-span timber bridges.*

It might be possible to achieve some efficiencies in bridge replacement by using programmatic permitting techniques, since these bridges have many common elements. New replacement bridge designs could result in improved environmental conditions by removing aging timbers from aquatic areas.

*Action MTN 4-3      Develop a funding mechanism for replacement of short-span timber bridges.*

Short-span timber bridges are becoming increasingly difficult to repair as traffic increases and estimated replacement costs are being driven by strict environmental and design standards. These bridges often do not qualify for federal funding due to their short span length. The county will need to develop a plan to deal with a large number of these structures as they approach the ends of their useful lives. An Annual Bridge Report documents the status of the bridge inventory and describes issues and challenges to maintaining the viability of the bridge inventory.

## **Chapter 9**

# **Roads Safety**

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***Goal: Maintain and improve safety for motorists, pedestrians, bicyclists, and other users of King County roads.***

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The division undertakes many safety-related activities through its various sections. The Traffic Engineering and Maintenance sections are most directly involved in ongoing safety activities, although all CIP projects include safety components and all division efforts recognize the primacy of safety in the organization's work.

The Traffic Engineering Section provides safety-related services in support of traffic operations. The section is involved in accident investigation, data collection, and related facilities improvements (e.g., the High Accident Location/High Accident Road Segment program and the safety management system), immediate response to citizen requests related to road safety, analysis and planning of traffic operations, response to street lighting requests, speed studies, pavement markings and road signage, and installation and maintenance of guardrails. The section also operates the Neighborhood Traffic Safety Program and the Selective Traffic Enforcement Plan program, both of which focus on speed control and safety.

The Maintenance Section addresses safety issues through its maintenance activities, which include managing vegetation for sight distance and visibility of traffic lights and signs, maintaining safe roads and bridges, removing road hazards, maintaining sidewalks, maintaining road drainage facilities to reduce flooding, and responding to road-related emergencies caused by adverse weather, landslides, and earthquakes.

The division focuses its efforts on these activities to ensure public safety on county roads. The division continually strives to find and use better ways to ensure safe operations and facilities.

The strategies and actions in this chapter will continue to foster a safety-conscious approach to the division's mission and enhance safety on county roads. This plan recognizes existing safety efforts and emphasizes the continuation or enhancement of these successful activities, while proposing additional strategies to enhance these efforts in the division's ongoing quest to improve the safety of the road system.

## Summary of Strategies

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|-----------------------|--|
| <b>Strategy SAF 1</b> | <b>Continue to provide ongoing safety improvements.</b>  |
| <b>Strategy SAF 2</b> | <b>Use a Safety Management Committee to oversee and coordinate activities related to road safety.</b>  |
| <b>Strategy SAF 3</b> | <b>Ensure that the safety standards and program goals used by the division are clearly documented and continue to enhance road safety.</b>   |
| <b>Strategy SAF 4</b> | <b>Enhance the effectiveness of the division's successful traffic and roads safety enforcement programs.</b>   |
| <b>Strategy SAF 5</b> | <b>Use the highest possible level of non-motorized facilities and landscaping consistent with the King County Road Design and Construction Standards to enhance non-motorized safety.</b>                      |
| <b>Strategy SAF 6</b> | <b>Identify road safety and operational improvements that become necessary as a result of new land development and ensure that land development roadway frontage conforms with the design of CIP projects.</b> |
| <b>Strategy SAF 7</b> | <b>Safety should continue to be a primary consideration in all division activities.</b>  |

## Strategies and Actions

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|-----------------------|---|
| <b>Strategy SAF 1</b> | <b>Continue to provide ongoing safety improvements.</b> |
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<i>Action SAF 1-1</i>	<i>Document and incorporate a prioritization process for safety-related projects and programs based on engineering and/or other professional principles.</i>
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A concern faced by public agencies is the fact that, for many or most programs (including those that are safety-related), needs exceed resources. This is particularly true in the area of traffic-related engineering. The division should continue its efforts to use a prioritization process, such as the existing safety management system, for traffic engineering projects and programs. This process should be based on sound engineering or other appropriate professional principles, and funding decisions made within the process should be documented. This effort has already been undertaken for some division projects and programs, but should be extended uniformly throughout all of the division's safety-related projects and programs.



*Action SAF I-2      Identify ongoing safety improvements through the High Accident Location/High Accident Road Segment program.*

The division currently tracks road accidents via a computerized system that identifies intersections and road segments where accidents have occurred more often. The intersections are known as High Accident Locations (HALs), and the road segments are called High Accident Road Segments (HARS). Safety improvements at these locations are prioritized according to estimated societal benefit. An update of the HAL and HARS lists will soon be completed, and the resulting HALS/HARS Report will document the locations, recommended safety improvements, and method of prioritization used.

After the HAL/HARS Report is completed, improvements should be identified and prioritized for possible inclusion in the division's Capital Improvement Program. The HAL/HARS program would track the status of these projects. New cycles with new HAL/HARS lists and reports should be undertaken periodically at appropriate intervals identified by the Traffic Engineering Section.

*Action SAF I-3      Establish a uniform monitoring program for traffic control devices.*

Signs, pavement markings, traffic signals, and street lights all need to be evaluated to ensure that they are present, visible, and functioning as intended. The frequency of these inspections can vary based on the type of device, history of needed maintenance, and the agency's available resources. A routine schedule of traffic control device surveillance should be established.

*Action SAF I-4      Where identified safety improvements require long-term solutions that must be assigned to the Capital Improvement Program, short-term solutions should continue to be considered and implemented where possible to provide some interim benefit to safety.*

This type of action is already underway and shows responsiveness on the part of the county. It can bridge the gap while funding is allocated and designs are completed for a long-term solution. A "Safety Management Committee" (see below) could identify and facilitate the development of short-term alternatives, and could also provide training opportunities and valuable experience in accident reduction to junior staff. Locations that would neither score well for CIP funding nor qualify for other established program funding (e.g., a long new stretch of sidewalk along an existing road) should be identified and funding solutions sought.

*Action SAF I-5      The Traffic Engineering Section responds to requests involving immediate safety concerns from the public, County Council, and division staff. The section should continue to investigate and provide immediate safety solutions when and where appropriate.*

The Traffic Engineering Section investigates traffic safety on roads in unincorporated King County and provides limited safety and operational improvements in response to immediate

needs. Requests to the section often include speed limit studies, illumination improvements, intersection operational improvements, installation of signs, traffic control, and flashers. Staff members also coordinate with the Neighborhood Enhancement Program to implement traffic and pedestrian safety recommendations.

*Action SAF 1-6      Maintain and enhance the Citizen Action Request Tracking System to track workflow activities that result from citizen action requests generated by the public, contract cities, and division staff.*

The Traffic Engineering Section uses citizen action requests and a database application called the Citizen Action Request Tracking System (CARTS) to track workflow activities that result from safety-related requests from the public, contract cities, and division staff. CARTS collects and provides information on each action request, including the location, investigation information, solution or recommended resolution, utility locations, and work order and correspondence status.

The use of CARTS should be continued. Its workflow tracking function could also be extended to other areas of the division. Two other systems, the Citizen Action Request System and City Discretionary Services Tracking System, are being used by the Maintenance Section and the Intergovernmental Relations group to provide similar workflow tracking.

*Action SAF 1-7      Improvements provided by the division as neighborhood traffic control solutions should continue to be coordinated with local emergency services providers and the community to ensure that adequate emergency response is maintained and that the potential tradeoffs between traffic control and emergency accessibility are understood.*

Procedures and guidelines for the installation of traffic calming improvements such as speed bumps and traffic circles, which can impact emergency vehicle response times, should continue to be collaboratively developed between all affected parties, including emergency services providers and the community. This is to ensure that all participants understand the physical needs of emergency services providers and the tradeoffs, if any, between accessibility and traffic control.

**Strategy SAF 2      Use a Safety Management Committee to oversee and coordinate activities related to road safety.**

*Action SAF 2-1      Create a Safety Management Committee to review existing methods of roads safety management within the division and other county agencies and recommend ongoing improvements to existing operations and facilities.*

Improvements related to the safety of the traveling public are undertaken by a number of different county agencies and sections. The Traffic Section already uses a safety management system to reduce the incidence and severity of transportation-related collisions, injuries, and

property damage. The system integrates transportation safety in emergency services, law enforcement, and education into a single system and also uses this information to identify road improvement needs.

The creation of a Safety Management Committee, comprised of representatives of King County agencies involved in roads safety, would establish a structure for ongoing communication, discussion, and review of safety improvement issues and opportunities and could compliment the existing safety management system. Representatives from the division's Traffic Engineering, Roads Maintenance, and Engineering Services sections should be involved. Representatives from Metro Transit, the King County Sheriff's Office, and other affected agencies should also be encouraged to participate. The committee would review existing methods of safety management within the division and other county organizations, recommend improvements to these methods, recommend road safety improvements, facilitate coordination within the county, and prepare an annual safety report.

**Strategy SAF 3      Ensure that the safety standards and program goals used by the division are clearly documented and continue to enhance road safety.**

*Action SAF 3-1      Document division safety standards and guidelines for division staff use and as a tool to help the public understand the division's safety-related efforts.*

Road safety is an ongoing division concern and an important issue with the public, but it's not always easy to understand the standards and procedures that King County uses to ensure road safety. The documentation and public availability of division safety guidelines would ensure that all important safety elements are consistently considered. Documenting the source of these guidelines would demonstrate that safety improvements are based on engineering or other appropriate professional standards. These guidelines may be taken from the existing safety management system and/or other programs, recognized professional standards, or they may be newly articulated where appropriate. The greatest benefit of this approach would be to ensure, in recurring issues and safety decisions, that all pertinent elements are considered and all reasonable solutions are explored. Safety issues where such guidelines might be appropriate include crosswalk installation and treatment, guardrail installation, and other traffic-safety improvements.

**Strategy SAF 4      Enhance the effectiveness of the division's successful traffic and roads safety enforcement programs.**

*Action SAF 4-1      Identify the long-term goals and activities of the Selective Traffic Enforcement Plan Program and the Neighborhood Traffic Safety Program and identify appropriate funding strategies.*

Traffic and roads safety enforcement efforts currently include the Selective Traffic Enforcement Plan (STEP) program and the Neighborhood Traffic Safety Program (NTSP).

These programs are coordinated efforts between the division and the King County Sheriff's Office, and are funded through the Traffic Engineering Section, which is able to direct enforcement efforts to specific roads and neighborhoods as needed. STEP program motorcycle officers provide proactive traffic control on major King County arterials. Their assignments include speed/volume counts, accidents and other traffic incidents, and locations with high complaint histories. NTSP motorcycle officers are assigned to local neighborhood-residential areas where most of their work involves reacting to local traffic-related complaints.

The STEP and NTSP programs have been successful and very popular with communities. Stating clear long-term goals and objectives for these programs while also identifying the appropriate scope of activities would enhance their effectiveness and guide future staffing and funding actions. With these goals and objectives in hand, the division can forecast future needs and identify and implement additional funding strategies, such as returning citation revenue to the division to pay for more officers and make the programs more self-supporting.

**Strategy SAF 5      Use the highest possible level of non-motorized facilities and landscaping consistent with the King County Road Design and Construction Standards to enhance non-motorized safety.**

*Action SAF 5-1      Where desirable and feasible in project design, maintenance, and budgets, incorporate enhanced landscape improvements into arterial design.*

The separation of pedestrians and horses from vehicles by the inclusion of a landscaped buffer, planting strip, or drainage swale between the road and pedestrian and/or equestrian facility could improve safety along high-traffic arterials while substantially enhancing the perception of safe streets. Design-related issues that influence the ability to provide separated facilities include sufficient right-of-way, availability of lighting, clearing, and connections between facilities. Maintenance of planting strips or landscaped buffers is not currently a funded county function, however, and additional landscape maintenance would be required for such projects, especially during the first three years after planting. The installation of enhanced landscaping would require coordination between the division's Capital Improvement Program and maintenance functions. Landscaping should only be incorporated when and where it can be maintained properly

*Action SAF 5-2      To the extent practicable, provide non-motorized facilities along important rural arterials in identified regional corridors to enhance safety.*

Rural arterial routes that link urban areas or other areas of higher population, such as urban connector roads, provide a special safety challenge for different modes of travel. These regional corridor routes may provide the only link for a relatively large number of residents, but because they are rural routes they may lack accommodations for bicyclists and pedestrians. As a result, it is not uncommon for cars, bikes, and pedestrians to share portions

of the road. During periods of poor weather, visibility and safe use may be especially challenging. Roads that provide important links between population centers should be identified and safe accommodation should be made for bicycles and pedestrians wherever it is practicable to do so.

**Strategy SAF 6      Identify road safety and operational improvements that become necessary as a result of new land development and ensure that land development roadway frontage conforms with the design of CIP projects.**

*Action SAF 6-1      Continue to provide traffic engineering expertise to the Department of Development and Environmental Services for the development review process.*

The Traffic Engineering Section currently provides expertise to the King County Department of Development and Environmental Services (DDES) for the development review process led by that agency. To ensure that technically adequate and safe transportation facilities are provided concurrent with new development, Traffic Engineering staff should continue to provide this necessary technical expertise.

**Strategy SAF 7      Safety should continue to be a primary consideration in all division activities.**

*Action SAF 7-1      Continue to address safety as a high priority in maintenance, traffic, and other division activities.*

The division places the safety of the traveling public among its highest priorities. Many Maintenance Section activities specifically address safety issues. Managing vegetation for sight distance at intersections, maintaining the visibility of traffic lights and signs, assuring safe street lighting, and maintaining safe sidewalks are examples of safety-related activities that the division currently undertakes. The Traffic Section also undertakes safety-related activities, such as investigating citizen calls for safety improvements or emergency responses. Safety should continue to be a primary consideration for the Maintenance and Traffic sections as well as a division priority, and safety activities should continue to receive priority attention. The division should also identify other important safety-related maintenance needs (e.g., street tree management) or long-standing safety-related capital needs (e.g., sidewalk repair backlog) and give them priority attention.



## **Chapter 10**

# **Transportation Environmental Stewardship**

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***Goal: Plan, build, operate, and maintain the road system in a manner that recognizes stewardship of the natural and human-made environments.***

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King County is an area rich in natural and cultural resources. Waterways, forests, wildlife habitat, historic structures, and archeological sites are just a few of the many features of the natural and human-made environments that must be protected. The division's environmental activities are undertaken in support of its business mission to identify and implement roadway and other related transportation systems solutions for safe and efficient movement of goods, services, and people. The division's work often involves changing the landscape, making it critical that the division's activities are undertaken with great care and sensitivity to the environment.

Environmental stewardship in transportation refers to an organization's awareness that it has a responsibility for the decisions and operations that may affect the environment. The American Association of State Highway and Transportation Officials describes stewardship in transportation as:

*Making decisions based on an understanding of the consequences to natural, human-made, and social environments and instilling and promoting individual and organizational attitudes, ethics, and behaviors that support protecting and enhancing the environment.*

Environmental stewardship in the division includes planning and actions that will preserve a healthy environment while the division does its work of providing transportation facilities and programs to enhance regional mobility and safety. The division seeks to strike a balance between environmental protection, regional mobility needs, and available resources. As a result, the division is sensitive to the environment during the planning and designing of facilities, conducts related environmental and ecological studies, and incorporates appropriate mitigation or habitat restoration into construction projects. The division assures compliance with local, state, and federal regulations via environmental review of road facilities projects and maintenance activities and by obtaining required permits from regulatory agencies.

The division's two environmental units focus on the effects of construction and maintenance of roadways and other division-sponsored facilities. The Engineering Services Section Environmental Unit focuses on the regulatory requirements associated with the development or improvement of roadway facilities as part of the division's capital improvement and other programs. The Maintenance Section Environmental Unit addresses the regulatory requirements for maintaining the county's existing facilities. Both units may be involved in

review processes under the State Environmental Policy Act (SEPA), the National Environmental Policy Act (NEPA), or other environmental permit requirements, including those of the National Pollution Discharge Elimination System and the Army Corps of Engineers.

Recent events have also made it advisable to undertake new, proactive environmental planning and programming. For example, the listing of Chinook salmon as “threatened” under the federal Endangered Species Act in 1999 significantly changed the regulatory landscape with respect to development and maintenance of roadways and other facilities in King County. Numerous other local, state, and federal regulations are also changing and evolving.

The strategies and actions in this chapter recognize the necessity of incorporating environmental factors as an integral part of roads planning and development. These proposals will enhance the division’s ability to meet current and future challenges to protect the county’s natural environment and cultural resources, while successfully accomplishing the division’s core mission to provide a safe and efficient transportation system.

## **Summary of Strategies**

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| <b>Strategy ENV 1</b> | <b>Proactively plan for the environment to improve CIP project selection, to better assess costs and regulatory complexity, and to reduce adverse effects on the environment.</b>  |
| <b>Strategy ENV 2</b> | <b>Identify opportunities to demonstrate leadership in environmental stewardship as part of the division’s core mission to “Identify and implement roadways and other transportation system solutions for the safe and efficient movement of goods, services, and people to support a high quality of life in King County.”</b>  |
| <b>Strategy ENV 3</b> | <b>Improve the efficiency and effectiveness of environmental mitigation.</b>   |
| <b>Strategy ENV 4</b> | <b>Ensure that division environmental efforts are consistent and comprehensive.</b>  |
| <b>Strategy ENV 5</b> | <b>Comprehensively inventory and assess cultural resources on lands owned and managed by the division, in conjunction with the King County Historic Preservation Program. These efforts are intended to reduce local, state, and federal regulatory conflicts and improve regulatory predictability during development and maintenance, as directed by the King County Comprehensive Plan.</b> |



- Strategy ENV 6**      **Ensure that cultural resources on lands under the division’s authority are protected to the maximum extent practicable to better ensure the conservation of the county’s historical and archeological resources.**
- Strategy ENV 7**      **Define “historic character” to provide a comprehensive, consistent, predictable, and less costly approach to development and maintenance in identified historic areas.**

## **Strategies and Actions**

- Strategy ENV 1**      **Proactively plan for the environment to improve CIP project selection, to better assess costs and regulatory complexity, and to reduce adverse effects on the environment.**

*Action ENV 1-1      Create an environmental planning and creative problem-solving process within the division for CIP projects to include both planning-level and project-level environmental review.*

Planning-level review should assist in the development of the Transportation Needs Report, Six-Year CIP, and other network-wide project lists to ensure that the entire road network and all division CIP projects are developed in an environmentally responsible manner. Detailed planning to avoid or minimize environmental impacts should proceed along with the coordination of CIP candidate projects and any proposed mitigation. The purpose of planning-level review is to enhance the division’s effectiveness in meeting its mission. Planning may significantly reduce the overall environmental impacts of roads projects. It should also reduce cost, regulatory entanglements, and delay; enhance coordination; and promote environmental stewardship.

As projects enter the design development phase (or other appropriate stage), project-level review should be done for SEPA/NEPA, applicable permit requirements, and to identify specific opportunities for shared mitigation.

Augmenting the existing project-level environmental review (SEPA/NEPA and permits) with planning-level review and assistance in the development of the Transportation Needs Report will help ensure that the entire road network is developed in an environmentally appropriate manner. This would also provide a more timely review process in which the development of the overall road network can respond to environmental issues. The intent of this planning-level review would be to minimize overall project development costs, promote project development in a more timely manner, and enhance environmental protection.

The adoption of this environmental planning process should help ensure that the environmental effects of roads projects are recognized throughout the decision making process.

*Action ENV 1-2      Identify environmental criteria to be used for decision making on transportation plans and CIP projects.*

The division's role is to provide safe and cost-effective transportation facilities throughout unincorporated King County. In this role, it is responsible for the environmental effects of its projects and activities, while the environment in turn influences the type, size, and location of road and trail facilities. The division must accomplish its mission while also minimizing the impact of its facilities and activities on the environment, including the habitats of critical wildlife and species listed under the Endangered Species Act.

*Action ENV 1-3      Develop and implement a system to track and assess cumulative development and mitigation opportunities for CIP projects.*

Augment the existing project-specific SEPA/NEPA environmental review process with GIS technology to enhance cumulative development evaluations using all relevant data that is readily available. This should increase the efficiency of the division's current and future environmental efforts. Actions ENV 1-1 and ENV 1-2 (above) may help the division significantly address this issue by providing a broader planning framework and a more defined environmental decision-making process.

*Action ENV 1-4      Seek to strategically partner with other agencies when appropriate to share staff knowledge and resources and identify and create joint projects.*

Local non-profit organizations, other government agencies, and King County possess many professional and technical resources that could be shared for greater efficiency and effect. The promotion of partnerships encourages communication and interaction, typically resulting in improved regional approaches to challenges such as the Endangered Species Act. The focus of such partnerships would be on sharing information, knowledge, and technical expertise for creative problem solving.

**Strategy ENV 2      Identify opportunities to demonstrate leadership in environmental stewardship as part of the division's core mission to "Identify and implement roadways and other transportation system solutions for the safe and efficient movement of goods, services, and people to support a high quality of life in King County."**

*Action ENV 2-1      Explore the American Association of State Highway and Transportation Officials Environmental Stewardship Program to identify opportunities to integrate environmental stewardship principles into the division's work.*

Promoting environmental stewardship as part of the operations of transportation agencies is a goal of both the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA). AASHTO has an

Environmental Stewardship Program that provides guidance in the area of environmental stewardship to transportation agencies. Agencies in 23 states are documenting their environmental efforts under this program. The ultimate goal of the AASHTO effort is to encourage transportation agencies to recognize the importance of environmental stewardship and work toward the adoption of organizational Environmental Management Systems (EMSs). The AASHTO program provides four progressive approaches to achieving agency environmental stewardship, including the institution of an agency EMS.

The FHWA also supports environmental stewardship by transportation agencies and the EMS as a strategy for demonstrating such stewardship. It encourages agencies to use EMS to integrate environmental performance into daily business decisions, which should improve regulatory compliance and operational efficiency.

The division already does many of the things listed by AASHTO as promoting environmental stewardship. This action proposes exploring the AASHTO Environmental Stewardship Program to identify ways in which the division might take advantage of the program to recognize current efforts and further integrate environmental stewardship principles into its work program. Staff members from the division's sections and environmental units, as well as management personnel, would participate, and AASHTO would provide technical assistance.

*Action ENV 2-2          Continue division leadership and partnership in the Regional Road Maintenance Endangered Species Act Program.*

The Regional Road Maintenance Endangered Species Act Program Guidelines were developed in response to the listings in 1999 of the Puget Sound Chinook salmon and the bull trout as "threatened" under the Endangered Species Act. The Guidelines provide a set of road maintenance policies and practices that will meet the dual goals of contributing to the conservation of listed species while meeting critical roadway safety and maintenance needs. The product of a lengthy collaborative effort between local government agencies, the National Marine Fisheries Service, the United States Fish and Wildlife Service, and other interested parties the Guidelines were originally a proposal of the Tri-County Salmon Conservation Coalition but have been expanded beyond the tri-county (King/Pierce/Snohomish) area to most of the state. Twenty-three counties and cities in Washington state, plus the Washington State Department of Transportation, have submitted and formally received approval from the National Marine Fisheries Service for inclusion in the Program.

King County, the Washington State Department of Transportation, Snohomish County, the City of Everett, and Pierce County played prime leadership roles in the development of this program. The division should continue to play such a role in the program's implementation, monitoring, and future adaptive management processes.

*Action ENV 2-3      Explore the possible role of environmental cost/benefit analysis in the planning of roads projects to identify cost effective methods for addressing environmental issues associated with division capital projects.*

The environmental costs associated with division capital projects are significant and increasing. An analysis that includes the direct and hidden costs of environmental requirements and mitigation may provide decision makers with important information in the planning of division projects. Such an analysis might include a “full cost accounting” or other appropriate methodology that presents decision makers with information about the economic tradeoffs inherent in proposed alternatives.

The division is encountering a growing number of environmental regulations and policies. Compliance with these significantly increases the costs of transportation system design, construction, and maintenance and sometimes results in delays in the completion of transportation projects. As the number of environmental regulations has grown, so, too, have the costs of completing road projects. While it is understood that both regulatory requirements and compliance have increased, the costs and benefits associated with the division’s environmental mitigation efforts remain largely unknown. The costs of avoiding, minimizing, and mitigating environmental impacts for new projects are currently embedded, and therefore hidden, in the costs of activities and projects throughout the division. Because of this they may be left out of the planning, scoping, and budgeting process. The lack of information and assessment tools may cause the environmental costs of road projects to be substantially underestimated. High environmental costs reduce a project’s cost/benefit ratio and lower the likelihood that the project will be funded. Environmental benefit and cost data could be used to identify reasonable and practical measures for achieving a desirable cost/benefit ratio.

The division should research the approaches and tools available for providing full cost analysis of proposed road projects during the planning process. A pilot study was completed by the Washington State Department of Transportation in 2002 to identify such a system for state transportation projects. The division should explore the use of such a system and determine whether a full cost analysis or other process would be useful to its capital planning efforts. The state model may provide a starting point for this exploration.

**Strategy ENV 3      Improve the efficiency and effectiveness of environmental mitigation.**

*Action ENV 3-1      Support regulatory changes that would encourage consolidated environmental mitigation.*

The existing codes and regulations endorse mitigation on a project-by-project basis. The result may be greater expense and longer delays as individual mitigation solutions, rather than consolidated solutions, are sought. Two or more projects may require similar mitigation activities in the same general area, but each now plans its own response instead of examining

combined mitigation for potentially less cost and great environmental benefit. A change in the current regulations could encourage an organized and practical approach to the coordination of mitigation activities and potentially provide better environmental protection for less cost.

*Action ENV 3-2      Explore opportunities for coordinated mitigation planning and implementation.*

The division should explore opportunities for coordinating mitigation efforts for its own projects via consolidation or other means consistent with applicable local, state, and federal codes and regulations. Coordination of mitigation opportunities with other jurisdictions should also be explored.

**Strategy ENV 4      Ensure that division environmental efforts are consistent and comprehensive.**

*Action ENV 4-1      Consistently provide information and education to staff, consultants, and contractors. Establish a systematic method that serves as a safety net for assuring environmental compliance on each project.*

Implementing myriad, complex environmental regulations and mitigation requirements in the field can be a difficult task. King County staff, consultants, and contractors must comply with many regulations, rules, and practices, many of which may be new to them, as regulations and best management practices change continually. In order to make environmental planning and regulation work on the ground, the division should establish a systematic approach to ensure environmental compliance and regularly keep staff, consultants, and contractors up to date on the latest regulatory requirements.

*Action ENV 4-2      Continue to pursue programmatic permitting opportunities to facilitate implementation of projects and maintenance activities with similar scopes of work and environmental impacts.*

The division provides environmental services for both capital projects and ongoing maintenance activities. The CIP and maintenance programs contain many projects that are similar in nature. Some programmatic approaches to permitting are already in use, and division projects could greatly benefit from additional ones.

## Cultural Resources

**Strategy ENV 5      Comprehensively inventory and assess cultural resources<sup>4</sup> on lands owned and managed by the division, in conjunction with the King County Historic Preservation Program. These efforts are intended to reduce local, state, and federal regulatory conflicts and improve regulatory predictability during development and maintenance, as directed by the King County Comprehensive Plan.**

The division has authority over properties throughout both incorporated and unincorporated King County. Some of these properties contain cultural resources such as archaeological sites or historic structures. King County Comprehensive Plan policies call for an inventory and protection of these resources.

While many cultural resources have been identified on these lands, others undoubtedly remain to be found. Because these resources require protection even when they are discovered mid-project, mitigating impacts to them can delay work and increase project costs. Last-minute mitigation efforts may also provide inadequate protection of the resource. An effort is now underway in conjunction with the King County Historic Preservation Program to inventory and describe all known cultural resources in the county. The results of this inventory may be helpful during road project planning, design, and construction. In addition, it would be beneficial to be able to predict for planning purposes where cultural sites may be found, even though they have not yet been identified.

*Action ENV 5-1      Develop, maintain, and regularly update a comprehensive inventory of known cultural resources under the ownership and jurisdiction of King County.*

*Action ENV 5-2      Use sensitivity modeling to better predict the occurrence of as yet unidentified cultural resources that may affect division projects.*

*Action ENV 5-3      Make the expertise and knowledge provided by the inventory of cultural resources and sensitivity model available to King County agencies and other jurisdictions and organizations as a regional planning tool.*

The continued development of a comprehensive cultural resources database and sensitivity model with the King County Historic Preservation Program will enhance project decision-making and ensure that these resources are better protected. The program and division should make this resource available to other King County agencies, other jurisdictions, and organizations as a regional planning tool.

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<sup>4</sup> Cultural resources include archeological resources, historic resources, and places of traditional significance to cultural groups such as Native Americans.

*Action ENV 5-4      Screen potential CIP projects for the presence of cultural resources during planning review.*

Review for the presence of cultural resources occurs as part of the project-level SEPA/NEPA and other review processes. This review should be started early in the development of capital facilities needs lists in consultation with the King County Historic Preservation Program. This would assist in the development of the Transportation Needs Report, Six-Year CIP, and other network-wide project lists, and better ensure that future facilities are planned appropriately and cultural resources are protected. Review could be integrated with the proposed planning-level environmental review process (See Action ENV 1-1, page 99).

**Strategy ENV 6      Ensure that cultural resources on lands under the division's authority or affected by division activities are protected to the maximum extent practicable to better ensure the conservation of the county's historical and archeological resources.**

King County Comprehensive Plan policies provide for the protection of cultural resources. Ensuring that cultural resources receive a high standard of protection is consistent with the Comprehensive Plan's intent.

*Action ENV 6-1      Participate in the nomination of identified cultural resources for county landmark designation status and/or listing on the National Register of Historic Places.*

When important historic properties (e.g., historic bridges, roadways, commercial buildings, landscapes, mill sites, homes, or other buildings or facilities) owned by the division or impacted by the division's actions have been identified, landmark status should be sought for those resources that are eligible, because such recognition will better ensure that they remain a part of the county's historical landscape. The division should work cooperatively on this with the King County Historic Preservation Program and other historic preservation agencies as appropriate.

*Action ENV 6-2      Work cooperatively with other jurisdictions and local communities to plan and protect scenic and heritage corridors.*

A scenic byway or heritage corridor is a transportation corridor that reflects intrinsic qualities of an area via the forests, mountains, waterways, landscapes or vistas, communities, historic landmarks, archeological sites, or other cultural and recreational resources found along the corridor. A byway/corridor can consist of one or more roads or non-motorized routes and include rural and/or developed areas.

King County and other jurisdictions share many transportation corridors that have significant natural, scenic, cultural or recreational resources. To ensure that these resources are protected and enhanced, the division should work cooperatively with other appropriate agencies, jurisdictions, and communities to plan and protect scenic byways and heritage corridors and

protect identified resources within them. These efforts may include seeking official corridor designation, corridor planning, and corridor enhancement or interpretation.

*Action ENV 6-3      Recognize and, when practicable, preserve historical character via the division's road plans, standards, designs, and improvements.*

Maintaining the historical character of King County's rural landscape enhances quality of life and is an important aspect of the county's cultural resource preservation effort. Plans, designs, and improvements for facilities should recognize and respond to the existing and historical character of the landscape, and, where practicable, should embody this character. An appropriate set of historic character guidelines (see Action ENV 7-1) should be used as a planning and design reference when projects are located in designated historic districts or heritage corridors. Such an approach will better ensure that roads development is undertaken in a context-sensitive manner.

*Action ENV 6-4      Identify all cultural resources jointly owned with other King County agencies and other jurisdictions and seek to ensure, through agreement and shared management processes, that these resources are protected to a level that is consistent with King County policies.*

Many important cultural resources exist on lands managed by multiple county agencies, including the division, or multiple jurisdictions, including King County and neighboring cities. In order to provide appropriate protection, the division should participate with the King County Historic Preservation Program and other relevant agencies or jurisdictions to identify and jointly manage these resources. The resources could be identified either through a comprehensive inventory or through site-specific observation. Affected agencies or jurisdictions would then be notified and mutual management agreements prepared and implemented where such agreements are practical.

*Action ENV 6-5      Promote protection of cultural resources when these are identified on projects that are being contracted by the division.*

The division provides contract services to many cities throughout King County. Cultural resources may be identified during projects or provision of contract services. When feasible, the division should work with other jurisdictions to promote the maximum protection practicable for these resources, recognizing that the standards of protection may be negotiated with the jurisdiction in which they are located.

*Action ENV 6-6      Seek to protect cultural resources identified on properties owned by the division, regardless of jurisdictional status. Protection may be continued in perpetuity through the use of covenants or other deed restrictions when properties are sold or transferred.*

The division owns properties in other jurisdictions or may transfer properties due to annexation. The standards of protection for cultural resources in these local jurisdictions may



not be as rigorous as those of King County or the division. When such resources are found on division-owned lands in other jurisdictions, the division should seek to protect them to the maximum extent practicable, and seek to ensure similar protection upon the sale or transfer of the property through the inclusion of covenants, deed restrictions, or other agreements.

**Strategy ENV 7      Define “historic character” to provide a comprehensive, consistent, predictable, and less costly approach to development and maintenance in identified historic areas.**

*Action ENV 7-1      Develop a set of “historic character” guidelines for development of new road facilities and maintenance of existing facilities. These guidelines should be consistent with identified historical examples in King County.*

The development of appropriate historic character guidelines for designated historic areas or heritage corridors would provide a blueprint for the design and development or redevelopment of road facilities where historic character is an important consideration. Guidelines should be developed in collaboration with the King County Historic Preservation Program and should complement standards for rural roads.

## Chapter 11

# Roads Funding Strategies

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***Goal: Ensure efficient and cost-effective allocation of resources.***

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Each year the division is faced with making decisions about the competing demands for funding of safety or capacity improvements, operations, or maintenance of infrastructure in the ensuing year's budget. This has become increasingly difficult in recent years with loss of revenue due to annexations and incorporations and voter initiative limitations on the property tax levy. In the absence of any new and predictable source of funding, budget decisions are likely to become increasingly difficult in future years, increasing the importance of using prudent financial management and budgeting techniques and making the best possible use of available resources. Recent budget innovations such as Roads CIP Flexible Budgeting (see page 23) and the issuance of road construction bonds have helped maximize the active use of available revenues.

### Summary of Recommendations

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|-----------------------|---|
| <b>Strategy FUN 1</b> | <b>Focus road construction and maintenance resources in ways that maximize efficiencies. Seek efficiencies before seeking new revenue sources.</b>  |
| <b>Strategy FUN 2</b> | <b>After incorporating programming efficiencies, if revenues are not sufficient to achieve program goals, seek additional sources of revenue.</b>   |
| <b>Strategy FUN 3</b> | <b>When prioritizing projects, consider the transportation benefits as well as the potential for other secondary benefits that would derive from the project.</b>                             |
| <b>Strategy FUN 4</b> | <b>Provide a system for prioritizing projects that includes a formalized process for adjusting funding priorities in response to changing circumstances.</b>                                  |
| <b>Strategy FUN 5</b> | <b>Maintain and improve avenues of communication with the public regarding status of road improvement projects and conditions affecting programming and completion of projects.</b>           |
| <b>Strategy FUN 6</b> | <b>When reviewing and revising budgetary priorities, allocate funding for operations and capital improvements together as one overall roads program rather than as two separate entities.</b> |

## **Strategies and Actions**

**Strategy FUN 1      Focus road construction and maintenance resources in ways that maximize efficiencies. Seek efficiencies before seeking new revenue sources.**

Maximizing efficient use of resources has always been an important objective for the division. Many efficiencies have already been put into place. Division administrative costs are already at a very modest level relative to total spending and comply with the state's 2000 Blue Ribbon Commission on Transportation's benchmark for administrative efficiency.

*Action FUN 1-1      Program funding for groups of projects by corridor to increase construction efficiency.*

Programming projects for funding requires a way to decide funding priorities for many different categories of projects—capacity, safety, pathway, intersection improvement, etc. All projects have merit, and it can be particularly difficult to decide between projects that include components from more than one category. For example, most capacity projects have safety components.

Programming projects by corridor groupings can help achieve construction efficiencies by consolidating construction for several projects. Upon completion of construction within a corridor, the benefits from several projects will combine for maximum effect.

*Action FUN 1-2      Consider public benefits and the timing of required development-related traffic improvements when prioritizing related corridor improvements.*

Developers are required to make transportation improvements for internal circulation and access, and to mitigate the impacts of traffic to and from the development. Where possible, the timing of other nearby road improvement projects should be scheduled to coincide with these developer improvements to achieve construction efficiencies.

**Strategy FUN 2      After incorporating programming efficiencies, if revenues are not sufficient to achieve program goals, seek additional sources of revenue.**

In recent years, revenues have decreased through loss of property tax due to annexations, incorporations, and voter-initiated tax limits. At the same time, the cost of road projects has increased due to factors such as new environmental requirements and increasing right-of-way costs. Even after maximizing efficiencies, it may be necessary to seek additional funding sources if the residents of King County are to receive the transportation system they need and deserve.

*Action FUN 2-1      Highlight unfunded needs.*

Calling attention to unfunded needs will help generate appropriate consideration of ways to increase revenue sources.

*Action FUN 2-2      Seek and support legislative changes to existing tax limits.*

*Action FUN 2-3      Seek additional grants or changes to the local-option gas tax.*

Current tax limits restrict the extent of improvements that can be made to the road system. These limits are set in state law and can only be changed by the legislature.

**Strategy FUN 3      When prioritizing projects, consider the transportation benefits as well as the potential for other secondary benefits that would derive from the project.**

Beneficial secondary effects can sometimes derive from transportation investments. For example, replacing an old timber bridge can result in improved environmental conditions by eliminating supports in the water. Although transportation benefits are the primary goal of the division, secondary benefits should be considered when programming projects.

*Action FUN 3-1      Develop both qualitative and quantitative measures and indicators when evaluating potential benefits of projects.*

Some benefits of projects may be very valuable to a community even though they are hard to quantify. Examples include equestrian, bicycle, and trail facilities. The value of directing traffic away from neighborhoods and onto arterials is also hard to quantify but is nevertheless important to communities. Such non-quantifiable benefits can usually be recognized even if it is not possible to assign a value to them. Recognizing these benefits and including them as part of the value of projects can help bring important community values into the prioritization process.

*Action FUN 3-2      Identify both primary transportation benefits as well as secondary non-transportation benefits that would derive from a project.*

Some transportation projects have benefits, typically environmental, that are not related to transportation. For example, when a road is improved, the drainage system within the right-of-way is often upgraded or improved. This can result in cleaner water and better habitat for fish and other native animals and plants.

**Strategy FUN 4      Provide a system for prioritizing projects that includes a formalized process for adjusting funding priorities in response to changing circumstances.**

Unanticipated events can cause sudden changes in needs or create opportunities to refocus resources. If one project is delayed, it could be beneficial to move resources to another project that is ready to move forward. A formalized process for adjusting funding priorities can facilitate such transitions, help stabilize the work flow, and augment efficiencies.

*Action FUN 4-1      Define processes and analysis to be used when changing circumstances indicate a need to reconsider project prioritization.*

Unforeseen circumstances occasionally require changes to project prioritization. Having a formalized process in place can assure the inclusion of all pertinent factors and smooth the way for authorization.

**Strategy FUN 5      Maintain and improve avenues of communication with the public regarding status of road improvement projects and conditions affecting programming and completion of projects.**

Citizens are the ultimate beneficiaries of transportation investments. Their needs and opinions are integral to the development of an efficient transportation system and their support is required to implement projects. Maintaining convenient avenues of communication with the public provides important information that can be used to help tailor projects to meet needs. In addition to providing printed material and public meeting opportunities, the division maintains a Web site that provides access to current project information.

*Action FUN 5-1      Seek opportunities to highlight new processes and efficiencies and to communicate to the public the effects of changing circumstances on the transportation system and projects.*

People have a right and a need to know about programs and projects funded by their taxes. Keeping the public informed about the effects of changing circumstances on the transportation system can increase public support and stimulate valuable public input that can be used in the decision making process.

*Action FUN 5-2      When available revenues are not adequate to achieve goals and objectives, clearly communicate to the public what can be achieved with existing revenues and what could be achieved with additional revenues.*

When seeking additional revenue for road improvements, it is important to clearly inform the public about the implications of the additional revenue for the road system. Presenting information about the type of road system that can be purchased with existing funds and what additional benefits could be purchased with additional funds can help the public understand the implications of their support for funding increases and improve the likelihood that road system improvements will match public expectations.

**Strategy FUN 6      When reviewing and revising budgetary priorities, allocate funding for both operations and capital improvements together as one overall roads program rather than as two separate entities.**

Capital and operating investments unite at the transportation system level. In some cases, deferring maintenance can result in higher capital replacement costs later on. This becomes apparent when analyzing project life cycles. A project that is maintained at appropriate intervals will usually last its entire life cycle, whereas life cycle is usually cut short where maintenance has been deferred. Because maintenance and capital projects are intertwined at the user level, it is important to consider them together when prioritizing for funding.

*Action FUN 6-1      When prioritizing projects within corridors, consider both operational and capital budget program areas to help balance differing program needs.*

All capital projects have operating implications. Roads, paths, intersections, and signals must all be maintained. Considering the operational implications of capital projects within corridors will provide important information about the balance between operating and capital program needs.

### **III. Next Steps**





## **Chapter 12**

### **Plan Implementation**

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***Goal: Implement the guidance supplied by the Roads Strategic Plan and ensure the plan's continued effectiveness.***

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This plan lays out an ambitious set of strategies and actions to be undertaken by the division. Implementation of these actions will require a dedicated and concerted effort to realize the benefits that are envisioned in the plan. This chapter provides a final set of “next step” strategies and actions by which the plan may be implemented, monitored, and updated. Taken together, these recommendations provide a practical framework to implement the guidance supplied by the Roads Strategic Plan and to ensure its continued effectiveness.

### **Summary of Strategies**

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|-----------------------|---|
| <b>Strategy RSP 1</b> | <b>Use the Roads Strategic Plan as a guide for revising the Transportation Needs Report process, and create a new long-term transportation facilities needs plan.</b> |
| <b>Strategy RSP 2</b> | <b>Implement the Roads Strategic Plan in a timely and effective manner and keep the County Executive, County Council, and public informed of progress.</b>            |
| <b>Strategy RSP 3</b> | <b>Keep the Roads Strategic Plan up to date and ensure that it reflects changing circumstances and needs.</b>   |

### **Strategies and Actions**

- |                       |   |
|-----------------------|---|
| <b>Strategy RSP 1</b> | <b>Use the Roads Strategic Plan as a guide for revising the Transportation Needs Report process, and create a new long-term transportation facilities needs plan.</b> |
|-----------------------|---|

From the start of the Roads Strategic Plan project the division recognized that the Transportation Needs Report (TNR), King County's long-term transportation capital needs plan, was ready for revision in process, format, and content. Most of the existing TNR was created before the Growth Management Act was implemented, and before the rapid changes in land use and governance structure that followed. The Act changed the region's transportation landscape and, necessarily, the division's focus. As the unincorporated area was reduced by incorporations and annexations during the 1990s, and the requirements of growth management redirected growth, the division's work evolved. In addition, more

stringent environmental regulations, rising land costs, and other changes over the last decade have made many earlier road project proposals less feasible and/or more costly.

While projects on the TNR have been periodically updated, no formal, comprehensive evaluation of the list has been undertaken for the purposes of removing projects or identifying missing links or gaps. Therefore, the TNR may contain projects that might now be deemed infeasible or no longer necessary. The division may also need to add new projects based on a new transportation analysis. These issues will be addressed through a comprehensive analysis as part of the update to the transportation needs planning process.

The existing TNR serves as a comprehensive transportation capital facilities plan, as required by the Growth Management Act. Many of the strategies in this plan identify enhancements and revisions that will improve the TNR and make it a more functional plan for today's transportation environment. For example, more fully recognizing the interconnected network character of the regional road system, the importance of regional corridors, the need for enhanced environmental stewardship, and the importance of incorporating more information related to regional freight mobility and non-motorized networks should all contribute to a more practical and functional plan. In order to create this enhanced plan, the first step in the Roads Strategic Plan implementation process is to review the existing TNR process, format, and project list and identify and implement a process to incorporate strategies and actions from the Roads Strategic Plan. Some of this review has already begun – the result will be a TNR that responds better than ever to today's and tomorrow's transportation needs.

*Action RSP 1-1      Use a systems/network approach and increase the use of transportation demand forecasting in the process of preparing the Transportation Needs Report.*

King County's system of streets, arterials, and highways forms a regional network through both urban and rural areas, within cities and across unincorporated lands. As part of an interconnected network, each roadway link has the potential to facilitate mobility and property access. The long-term transportation capital planning process should recognize that no part of the regional system stands alone, nor does traffic on the system recognize politically defined boundaries. Motorists travel from one city to another and between cities and unincorporated areas as well as from rural areas to urban areas and back again. Long-term transportation capital planning should recognize the realistic demands placed on the regional system and respond to these demands appropriately. Increased use of travel demand forecasting can provide an opportunity for planners to identify where future road capacity improvements will be most needed and what improvements will be most effective.

*Action RSP 1-2      Incorporate an increased focus on regional corridors.*

Consistent with the strategies and actions of this plan, long-term transportation capital planning should focus on improvements and programs that benefit identified arterial corridors. Corridors, including arterial roadways, related streets, and non-motorized facilities, should be recognized as cohesive units for long-term planning purposes.

*Action RSP 1-3      Incorporate new screening criteria for environmental and cultural resources.*

As environmental and cultural resource regulations become more stringent and new environmental challenges, such as the Endangered Species Act listings, emerge, the division can begin to plan more proactively for the environment at an earlier stage in transportation capital planning. Projects that appear infeasible as a result of more stringent regulations should be identified and removed from future plans, and new facilities should be planned with the environment in mind.

*Action RSP 1-4      Incorporate additional criteria related to freight mobility goals.*

Freight mobility is critical to the region's economic vitality. Many road improvements that help reduce overall traffic congestion and improve general mobility also benefit the movement of freight. Other improvements specifically address freight issues; for example, resolving conflicts at railroad/roadway grade crossings or improving access to ports and other shipping centers.

A significant amount of work to identify regional freight mobility issues and needs has been done in recent years by the Freight Action Strategies (FAST) Corridor regional freight mobility partnership and the Regional Freight Mobility Roundtable. The TNR should use project prioritization criteria that incorporate the current regional thinking on freight mobility needs and issues.

*Action RSP 1-5      Incorporate additional criteria related to non-motorized networks and missing links in networks.*

The King County Comprehensive Plan provides a strong policy basis for transportation alternatives that increase personal mobility options and reduce single-occupant vehicle use. Non-motorized facilities promote bicycling, walking, and equestrian uses as mobility alternatives, healthy recreational opportunities, and quality-of-life enhancements. Long-term transportation capital planning should recognize the need to strategically fill in missing segments in non-motorized networks to increase safety and mobility.

**Strategy RSP 2      Implement the Roads Strategic Plan in a timely and effective manner and keep the County Executive, County Council, and public informed of progress.**

A plan must be implemented in order to be effective. The Roads Strategic Plan provides an extensive blueprint for many division activities, particularly in areas where little or no formal policy guidance was previously available. Implementation of the plan's strategies and actions will require a dedicated effort by division management and staff and the incorporation of realistic expectations, given the division's existing workload and budget. It will also be important to make the County Executive, County Council, and the public aware of the division's implementation efforts and accomplishments.

*Action RSP 2-1      Create an implementation work program for the Roads Strategic Plan that will be incorporated into the division's annual budget and work program cycle and that takes staff and resource availability into consideration.*

*Action RSP 2-2      Monitor and report on the progress of Roads Strategic Plan implementation on an annual basis.*

The Roads Strategic Plan should be implemented via a work programs that recognize the practicalities of the division's ongoing work and annual budget. The division should monitor plan implementation progress on an annual basis. A report that details progress and accomplishments in each of the topic areas should be prepared. This report could be in the form of a progress memo.

**Strategy RSP 3      Keep the Roads Strategic Plan up to date and ensure that it reflects changing circumstances and needs.**

Any plan is a snapshot in time with respect to the issues and opportunities that are current when it is created or updated. The Roads Strategic Plan recommends strategies and actions to respond to current circumstances and enhance the effectiveness of the division's projects and programs. As opportunities are seized and needs or conditions change, the issues faced by the division and the tasks associated with fulfilling the division's mission will evolve. Since the Roads Strategic Plan seeks to be a living document that provides ongoing guidance, it will be important to periodically evaluate and update the plan.

*Action RSP 3-1      Evaluate the Roads Strategic Plan a minimum of every four years, making certain that plan evaluation and updating is coordinated and consistent with the King County Comprehensive Plan updating process. The revised plan should incorporate new county policy direction, new information, changing priorities, or other conditions.*

To make certain that the Roads Strategic Plan remains relevant, the division should update the plan on a regular schedule or when important new conditions emerge. An evaluation and update cycle of four years will keep the plan current while using planning staff resources efficiently. If significant changes in conditions emerge between update cycles, the division may update the plan more frequently.

## **IV. Appendices**



## **Appendix A**

### **Public Involvement Summary**

#### **Overview**

The King County Comprehensive Plan calls for the Road Services Division to identify and prioritize transportation needs over the next several years. Public outreach in preparation for drafting the Roads Strategic Plan included the following efforts:

- In the spring of 2002, the division began public outreach by assembling a Community Advisory Group.
- During May of 2002, public outreach activities included mailing a brochure and questionnaire to 23,000 King County property owners, and hosting three public workshops and four information tables.

#### **Community Advisory Group Membership**

The Roads Strategic Plan Community Advisory Group (CAG) was formed in Winter 2001-2002 with the intention of obtaining broad participation from the county's unincorporated area councils (UACs), non-governmental organizations interested in King County's transportation issues, and a variety of individual residents and/or business people from throughout King County's unincorporated communities.

Each UAC was invited to provide a representative to serve on the advisory group; some were able to do so and others were not. In addition, the Master Builders Association, 1000 Friends of Washington, and the Transportation Choices Coalition were invited to provide representatives, and all three organizations did so. The remaining members of the CAG were individuals selected from both urban and rural unincorporated neighborhoods with an eye toward obtaining a diversity of perspectives as well as geography. The result was a strong, well-informed advisory group consisting of the following members:

- **Jim Becker**, Fall City
- **Barbara Eckley**, Juanita-Woodinville Way area
- **Sydney Elmer**, 1000 Friends of Washington
- **Joe Giberson**, Fairwood
- **John Huson**, Maple Valley Unincorporated Area Council
- **Jean Johnson**, Juanita-Woodinville Way area
- **Ron Johnson**, North Highline Unincorporated Area Council
- **Kevin Shively**, Transportation Choices Coalition

- **Sara Slatten**, Master Builders Association
- **Barbara Wilson**, West Hill Unincorporated Area Council
- **Paul Witt**, Fairwood/Fire District 40
- **Pat Young**, North Bend

## **Community Advisory Group Process**

The CAG met nine times between February and October 2002. During the first six meetings, King County staff members presented overviews on pertinent topics, including land use planning, finance and budget, congestion, safety and maintenance, environmental issues and alternative transportation options. During each of these meetings, CAG members discussed key issues and provided feedback from a community perspective to staff members. Members also attended the public meetings and staffed information tables, and later reviewed and helped the division “digest” public comments and questionnaire responses.

In June 2002 the CAG formulated guiding statements as their preliminary recommendations. Division staff used this guidance, as well as other public input, in developing a preliminary discussion draft of the Roads Strategic Plan, which was mailed to CAG members in September. In October, CAG members had an opportunity to provide their comments on the discussion draft either in person, by email, or by phone. These comments, together with extensive internal county feedback, were then used to revise and refine the plan.

## **Brochure/Questionnaire and Public Event Participation**

The division conducted a broader public involvement effort at the same time as, and in coordination with, the CAG process. In Spring 2002 the division produced a brochure that explained the Roads Strategic Plan project and contained a questionnaire to collect public feedback on the importance of various transportation services and issues. A copy of that brochure and questionnaire is included at the end of this Appendix (see page A-5). The brochure/questionnaire was mailed to approximately 23,000 households selected from a database of property owners in unincorporated King County. It was also distributed at public outreach events. The questionnaire was considered an information-gathering tool, not a statistically valid survey. It provided a great deal of information about public opinions, concerns, and thoughts about transportation issues.

The division received 1,066 responses to the questionnaire, which represents a 4.6 percent return. Of these, 34 responses were submitted via the project web site. For direct mail questionnaires, a 2 percent return is considered a “good” response, so the response rate was highly satisfactory.

In addition to filling out the survey, 717 respondents provided written comments. These proved to be extremely interesting and useful feedback since they addressed a full range of transportation and services issues that were on the respondents’ minds.



The section also received six letters, two comment sheets, 13 worksheets in which people indicated how they would allocate funding among different transportation improvements, and one phone call. Although the public workshops held in White Center, North Bend, and Auburn drew few participants, the information tables staffed at public places in Duvall, Fairwood, Kingsgate, and Vashon Island reached about 250 people.

## **Questionnaire Results**

- Eighty-four percent of the respondents said that improvements to intersections and signals to speed traffic flow and ease congestion were “very important” or “important.”
- Other important areas of concern were major maintenance (74 percent said it was “very important” or “important”); safety improvements (70 percent), minor maintenance (66 percent); and adding lane capacity (66 percent).
- Of somewhat lesser importance were pedestrian improvements (51 percent), improvements that make it easier to use the bus (42 percent), and bicycle facilities (35 percent).
- Least important to respondents were improvements to appearance, such as landscaping. Only 12 percent said this was a “very important” or “important” area.

Questionnaire results were subdivided into the following groups: rural, urban, east King County, south King County, Seattle/North Seattle vicinity, Vashon Island, Commuters-10 miles and less; Commuters-11 miles and more. Results in some of these categories reflect small deviations from the overall results.

Forty-eight percent of more than 700 individual written comments related to traffic congestion, including specific suggestions for ways to improve traffic flow. The remaining comments related to alternative transportation modes (18 percent), maintenance (11 percent), safety (10 percent), and other issues (13 percent).

## **Conclusion**

The community advisory group provided in-depth input and feedback that were invaluable to development of the Roads Strategic Plan. The questionnaire and information tables in public places such as grocery stores and libraries provided a complementary opportunity to collect input from a very broad range of residents, property owners, and other members of the community. The brochure/questionnaire was successful in reaching a large number of households and soliciting input on several key topics. The information tables provided an excellent opportunity for county staff to talk one-on-one efficiently with a large number of people in a way that was very convenient for the public.

The information gathered from these public outreach efforts played a major role in the evolution of the plan, which is intended to be responsive to the important themes and areas of concern that emerged during the outreach process. Further input on the plan or on other road issues is welcome and can be directed to:

King County  
Department of Transportation  
Road Services Division  
MS KSC-TR-0313  
201 S. Jackson Street  
Seattle, WA 98104-3856  
(206) 296-6590



## ROADS STRATEGIC PLAN

### *Inside you will find:*

- The challenges facing the county and its approach to road planning
- **A questionnaire to fill out and mail back to us**
- How to contact county transportation staff for more information

**Help King  
County set  
priorities for  
roads**

King County's Comprehensive Plan 2000 calls for the Department of Transportation Road Services Division to identify and prioritize transportation needs over the next several years. To help develop the best Roads Strategic Plan possible, the Road Services Division is asking residents of unincorporated King County to share their thoughts about maintaining and improving our road system.

Transportation is a critical issue affecting our quality of life and our economy. Aging infrastructure, tighter budgets, changing communities and increasing traffic all require that we plan the future with exceptional care and efficiency. In light of these circumstances, we would like your input on setting the goals, strategies and actions that will guide future county road projects and programs.



**Please join us for one of the following information tables or community workshops:**

#### *Community Workshop*

**Wednesday, May 8, 6:30 to 8:30 p.m.**  
Evergreen High School  
830 SW 116<sup>th</sup>, Seattle

#### *Information Table*

**Saturday, May 11, 10 a.m. to noon**  
Duvall Safeway  
14020 Main Street NE, Duvall

#### *Community Workshop*

**Tuesday, May 14, 6:30 to 8:30 p.m.**  
Mount Si Senior Center  
411 Main Avenue South, North Bend

#### *Community Workshop*

**Thursday, May 16, 6:30 to 8:30 p.m.**  
Auburn Senior High School, North Cafeteria  
800 Fourth Street NE, Auburn

#### *Information Table*

**Saturday, May 18, 10 a.m. to noon**  
Kingsgate Library  
12315 NE 143<sup>rd</sup>, Kirkland

#### *Information Table*

**Saturday, May 18, 1:00 to 3:00 p.m.**  
Fairwood Library  
17009 140<sup>th</sup> SE, Renton

#### *Information Table*

**Monday, May 20, 6:30 to 7:30 p.m.**  
Chataqua Elementary School  
9309 SW. Cemetery Road, Vashon  
(in conjunction with the Vashon-Maury Island Community Council meeting)



Neighborhood improvements play a big part in King County road programs.

## Growing Communities – Changing Circumstances

King County is now home to more than 1.7 million people—15% more than in 1990. Approximately 350,000 of them live in unincorporated King County, where the Road Services Division has direct responsibility. Road Services must meet the transportation needs of both urban and rural communities.

The County's responsibilities are complicated by the incorporation of ten new cities over the past decade and the ongoing annexation of land into existing cities. The result is a road network under the care of many different jurisdictions. For example, the road you take to work, school or shopping may start out as a county road, pass through one or more adjacent cities where it becomes the responsibility of that city's street department, and possibly even connect with a state highway.

This fragmented pattern is common throughout our communities, making it vital that King County work with other jurisdictions to develop coordinated regional transportation solutions.

## Now More than Ever

Maintaining and improving King County's roads in today's environment is increasingly challenging because:

- traffic congestion has reached critical proportions in many areas;
- our roads and bridges are aging and need substantial maintenance or replacement;
- older infrastructure may not meet today's standards or take advantage of technology improvements;
- many communities need safety upgrades such as sidewalks;
- road projects may cost more and take longer to complete today because of commitments to protect the environment and respond to neighborhood concerns.

Therefore, the county must develop new guidelines for making decisions about spending transportation dollars.

King County's aging infrastructure requires major repair or replacement throughout the county.



## What We Propose to Do

**T**he Road Services Division needs to obtain public input now—early in the process—to produce a Draft Roads Strategic Plan by Fall 2002. The Draft Plan will propose the strategies and specific actions we can take to:

- maintain and improve road safety;
- ease congestion;
- repair and maintain roads and bridges;
- provide more travel options;
- use public funds efficiently and effectively.

In 2003, we will use the final Roads Strategic Plan to create an updated list of our most important roadway needs.



**A Community Advisory Group  
is meeting to discuss the  
Roads Strategic Plan issues.**

## Where you come in

**T**his brochure and questionnaire is just one part of the Road Services Division's public outreach efforts. It has already assembled a Community Advisory Group (CAG), which meets regularly, and the division is planning several public workshops and information tables in May.

To assure that your concerns are heard, please fill out and return the attached questionnaire and attend one of Road Services Division's workshops in May.

For more information on the King County Roads Strategic Plan, please contact Barbara de Michele, community relations planner, at 206-263-3792 (voice), 206-684-1682 (TTY), 206-263-3489 (fax), or [barbara.demichale@metrokc.gov](mailto:barbara.demichale@metrokc.gov) (email). You may also write her at King County Transportation Community Relations, KSC-TR-0824, 201 S. Jackson St., Seattle, WA 98104-3856, or visit our web site at: <http://www.metrokc.gov/kcdot/tp/roads/strategicplan/>

## Roads Strategic Plan Questionnaire

You can help King County Road Services Division prioritize its construction and maintenance needs by filling out this postage-paid questionnaire. Please answer the questions, tear this page off at the dotted line, fold, tape and mail it back to us by **Friday, May 24**. Do not use staples, please.

1. King County Road Services Division is responsible for a wide variety of road projects and programs. Please indicate how important each of the following is to you:

- a) Addition of new lanes to existing roads to increase road capacity  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- b) Improvements to intersections and signals to speed traffic flow and ease congestion  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- c) Road safety improvements to help reduce accidents  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- d) Major maintenance projects, such as repaving existing roads and repairing bridges  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- e) Minor maintenance, such as pothole patching, road-side mowing, stripe painting and sign repair  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- f) Pedestrian improvements that make walking safer and more appealing  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- g) Bicycle facilities that make bicycling safer and more appealing  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- h) Road improvements that make it easier to use the bus  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion
- i) Improvements to road appearance, such as landscaping, street trees, medians, and other design features  
☐ Very important    ☐ Important    ☐ Somewhat important    ☐ Not important    ☐ No opinion

2. What else would you like to tell decision-makers about the road issues that are important to you?

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3. Please tell us about yourself. How do you normally get to work or school?

- ☐ Single-occupant Vehicle    ☐ Carpool/Vanpool    ☐ Bus/Train    ☐ Ferry    ☐ Bike    ☐ Walking  
Other \_\_\_\_\_

Approximately how far is your normal commute to work/school? \_\_\_\_\_ miles

Please give us your home zip code so we can determine how questionnaire responses are distributed throughout the county. This information will NOT be used to identify you in any way. **Home Zip Code:** \_\_\_\_\_

*Thank you! The information you have provided will be used to help set goals, strategies and action steps in the Roads Strategic Plan.*

## **Appendix B**

### **Glossary of Terms**

**American Association of State Highway and Transportation Officials (AASHTO):** A nonprofit, nonpartisan association representing highway and transportation departments in all 50 states, the District of Columbia, and Puerto Rico. It represents all five transportation modes: air, highways, public transportation, rail, and water. Its primary goal is to foster the development, operation, and maintenance of an integrated national transportation system.

**Archeological resources:** Any material remains of human life or activities which are of archaeological interest. This shall include all sites, objects, structures, artifacts, implements, and locations of prehistoric or archaeological interest, whether previously recorded or still unrecognized, including, but not limited to, those pertaining to prehistoric and historic American Indian or aboriginal burials, campsites, dwellings, and their habitation sites, including rock shelters and caves, their artifacts and implements of culture such as projectile points, arrowheads, skeletal remains, grave goods, basketry, pestles, mauls, and grinding stones, knives, scrapers, rock carvings and paintings, and other implements and artifacts of any material (WAC 25-48-020).

**Arterial:** Categories of roads that fall between highways and local roads in functional classification systems. Arterials typically have higher speed limits and more stringent traffic control measures at intersections (e.g., traffic signals or stop signs) than local roads, but lower speeds than highways.

**Arterial functional classification:** The division of an arterial road system into a number of categories or groups based on service characteristics having to do with the movement of traffic and access to adjacent development.

**Best management practices (BMP):** Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs may also include treatment requirements, operating procedures, and practices to control site runoff. BMPs have been developed for many types of activities, including project construction and maintenance, stormwater management, agriculture, industrial procedures, and soil management.

**Bicycling Guide Map:** A map that provides information about the conditions of major roads and trails throughout King County for bicycling. The Guide Map includes variables such as traffic volumes, road conditions, and grades as well as transit connections, landmarks, and trail access points.

**Capacity:** A measure of the supply side of a transportation facility. It reflects the ability of the transportation facility to accommodate a moving stream of people or vehicles.

**Capital Improvement Program (CIP):** A six-year program of road improvement projects intended to provide safe, efficient, and environmentally sound transportation facilities for the traveling public.

**Citizen Action Request Tracking System (CARTS):** A database of citizen-generated road maintenance requests used to promptly address field maintenance issues.

**Commute trip reduction (CTR):** Programs that give commuters resources and incentives to reduce their automobile trips. CTR programs typically includes strategies to reduce drive-alone commuting, such as commuter financial incentives (e.g., transit allowances), rideshare matching, parking management, alternative scheduling (e.g., flextime and compressed work weeks), telecommuting, and encouragement of walking and bicycling along with facilities improvements. Washington state law establishes CTR programs in the state's nine most populated counties.

**Comprehensive plan:** A generalized, coordinated land use policy statement of the governing body of a county or city pursuant to the Growth Management Act. Each comprehensive plan includes a plan, scheme, or design for land use, housing, capital facilities, utilities, rural areas, and transportation.

**Congestion management system:** A system that combines information, reporting, and strategies designed to alleviate congestion and enhance the mobility of persons and goods. The information can include various types of data (accidents, traffic volumes, travel speeds, etc.) that provide information on transportation system performance.

**Countywide planning policies (CPP):** Policies required by growth management legislation that provide a framework for consistency among comprehensive plans in King County.

**Cultural resources:** These include archaeological resources, historic resources, and places of traditional significance to cultural groups such as Native Americans.

**Critical segment:** Segments representing portions of select arterials in the Transportation Concurrency Management Program that have volume-to-capacity ratios of 1.1 or more during the peak period and carry more than 30 percent of the one-way peak-period vehicle trips from a proposed non-residential development or from a concurrency zone for residential development.

**Destination 2030:** A transportation action plan for the central Puget Sound region of Washington State. On May 24, 2001, it was unanimously adopted by the Puget Sound Regional Council's General Assembly, which includes representatives from central Puget Sound counties, cities, towns, ports, and transportation agencies.

**Eastside Transportation Partnership (ETP):** A cooperative effort of elected officials and high-level representatives from the public and private sectors to address common



transportation issues in east King County. ETP is one of three subarea transportation forums coordinated by the King County Department of Transportation.

**Endangered Species Act (ESA):** An act adopted by US Congress in 1973 to provide a means whereby ecosystems upon which endangered and threatened species depend may be conserved and to provide a program for the conservation for such endangered and threatened species.

**Equestrian communities:** While equestrian uses are permitted throughout the rural area, the King County Comprehensive Plan identifies certain designated equestrian communities where continued equestrian uses are especially supported.

**Existing transportation needs:** Needs associated with households and businesses in existence at the time of comprehensive plan adoption.

**Federal Highway Administration (FHWA):** An agency that provides direction and oversight of federally funded roadway projects, including state and local projects that receive federal funding.

**Flexible budgeting:** A budgeting mechanism by which dollars associated with delayed or stalled projects that are budgeted in the current year may be traded with other projects that are programmed later in the six-year program if those other projects are ready to move forward.

**Freight Action Strategies (FAST):** An innovative partnership composed of transportation agencies, ports, cities, economic development organizations, and trucking, rail, and business interests working to streamline the movement of freight through the central Puget Sound region of Washington State.

**Functional classification:** See Arterial Functional Classification

**Functional plans:** Detailed plans for facilities and services. Some functional plans are operational or programmatic, which means they guide daily management decisions. Others include specific details of facility design and location and must be consistent with the King County Comprehensive Plan and development regulations. Functional plans are prepared by King County, independent special purpose districts, or other public and private agencies.

**General obligation bonds:** Municipal securities secured by the issuer's pledge of its full faith, credit, and taxing power.

**Geographic information system (GIS):** Computerized information system that combines spatial mapping and database management to provide a wide range of mapped information and analysis opportunities.

**Growth Management Act (GMA):** In 1990, the Washington State Legislature passed the State Growth Management Act (ESHB 2929). The Act calls for urban counties and cities in the state to develop comprehensive plans to guide growth management decisions for at least the next decade. Amendments to the Act in 1991 require that counties, working with the cities within their boundaries, develop countywide planning policies to provide a common vision of the future to serve as the framework for all comprehensive plans throughout the county.

**Growth Management Planning Council (GMPC):** Established by an interlocal agreement, this 15-member council of elected officials from Seattle, suburban cities, and King County is responsible for preparing and recommending the countywide planning policies to the Metropolitan King County Council, which adopts the policies and sends them to the cities for ratification.

**HAL/HARS:** A list of 100 high-accident locations (HALs) and 50 high-accident road segments (HARS) in unincorporated King County, maintained by the Road Services Division as part of its ongoing safety management program. HALs are located at arterial intersections, and HARS consist of arterial roadway segments.

**Haro study:** *A Liability Analysis of the Traffic Engineering Functions of King County*, William Haro, January 1999.

**Heritage corridor:** A transportation corridor known for its natural, scenic, cultural, historic, recreational, or archaeological resource values irrespective of jurisdictional boundaries and ownership. In general discussion, this term is sometimes used synonymously with “scenic byway.”

**High occupancy vehicle (HOV):** Motor vehicle carrying two or more persons.

**Historic resource:** A district, site, building, structure, or object significant in national, state, or local history, architecture, and culture (KCC 20.62.020).

**Incorporated areas:** Areas within a city or a city’s jurisdiction. King County contains 39 incorporated cities.

**Intelligent transportation system (ITS):** The application of advanced technologies to improve the efficiency and safety of transportation systems.

**King County Metro Transit Division:** Official name of King County’s public transportation agency, often referred to as Metro. Like Road Services, Metro Transit is a division of the King County Department of Transportation.

**Level-of-service:** A measure of a roadway’s operating conditions under a given demand. Transportation level-of-service is a qualitative measure, graded A through F, describing the operational conditions based on both design capacity and actual traffic volumes.

**Lifecycle cost:** A calculation of the cost of a system over its entire lifecycle.

**Maintenance:** Activities that ensure that the right-of-way and each type of roadway, roadway structure, and facility remains, as nearly as practical, in its original, as-constructed condition or subsequently improved condition.

**Maintenance Monitoring and Reporting System:** A Road Services Division system designed to assist in planning and managing road maintenance by monitoring and reporting on the condition of road pavement.

**Metropolitan planning organization (MPO):** A regional agency representing local governments for programming and planning under federal mandates and regulations. The Puget Sound Regional Council is the MPO for the central Puget Sound region of Washington State.

**Mitigation (environmental):** Projects or activities intended to correct or compensate for anticipated adverse effects to the environment caused by a capital project or maintenance activity. Mitigation is often required as a condition of project regulatory permitting.

**Mitigation payment system:** A system that establishes a requirement that new growth and development pay a proportionate share of the cost of supporting needed transportation improvements. The proportionate share is related to the cost of transportation facility improvements needed by the new development.

**Metropolitan Transportation Plan (MTP):** A detailed, long-range transportation plan that guides future regional investments and responds to various state and federal legal mandates. *Destination 2030* is the Metropolitan Transportation Plan for the Central Puget Sound Region.

**Metropolitan Transportation System (MTS):** The federally recognized regional transportation system within the four-county (King, Pierce, Snohomish, and Kitsap) central Puget Sound region. It includes road, ferry, transit, non-motorized, freight, rail, and aviation components and is used to certify regional air quality compliance and provide a basis for federal funding. The MTS is identified in the Metropolitan Transportation Plan, *Destination 2030*.

**Mode split:** The proportion of total trips using various forms or modes of transportation, e.g., single-occupant vehicles, transit, carpools, bicycles, walking, and other modes.

**Multifamily:** Structures with more than one household unit. Multifamily housing includes duplexes, apartments, and condominiums.

**Multimodal:** Having more than one transportation mode such as auto, bus, rail, bicycle, etc.

**National Environmental Policy Act (NEPA):** Spells out the federal environmental review process applicable to projects and activities that are sponsored or funded by the federal government.

**Neighborhood business centers:** Shopping areas that offer convenience goods and services to local residents. They primarily contain retail stores and offices.

**Neighborhood Enhancement Program (NEP):** A program that implements neighborhood traffic and safety projects in unincorporated King County.

**Neighborhood Traffic Safety Program (NTSP):** A program that provides Sheriff's officers to work with local neighborhoods in unincorporated King County to address traffic-related complaints.

**Non-motorized:** Describes modes of transport that do not require powered vehicles, including walking, bicycle, and equestrian modes. In the Roads Strategic Plan, non-motorized frequently refers to bicycle and pedestrian modes.

**Operating program:** The part of the division's budget that is not related to capital expenditures. Its activities include administration, maintenance, and traffic operations.

**Pavement condition levels:** Numerical standards for rating the condition of pavement used in the Maintenance Monitoring and Reporting system.

**Potential annexation area (PAA):** An area in unincorporated King County that is adjacent to a city and is expected to be annexed by the city, and to which that city will be expected to provide services and utilities, within the next two decades.

**Preservation:** Specialized maintenance activities that serve to extend the originally estimated life of a roadway, roadway structure, or facility, but that do not increase its capacity or efficiency.

**Puget Sound Regional Council (PSRC):** The federally designated Metropolitan Planning Organization and central Puget Sound's regional transportation planning organization under the Washington State Growth Management Act. The PSRC is responsible for regional transportation planning in the four-county region comprised of King, Pierce, Snohomish, and Kitsap counties.

**Regional Arterial Network (RAN):** An identified system of regionally significant roads within King County that are critical to the movement of goods and people; a network of multimodal corridors essential to countywide mobility for transit, freight, and general-purpose traffic.

**Regional Freight Mobility Roundtable:** A nationally recognized public-private forum that defines and recommends actions that serve freight mobility needs in and through central Puget Sound.

**Regional transportation planning organization (RTPO):** An agency designated by state law to ensure that regional transportation and land-use plans are integrated and state, regional, and local transportation plans are consistent. In urbanized areas, the RTPO is the same as the metropolitan planning organization designated for federal transportation planning purposes. The PSRC is the designated RTPO for the central Puget Sound region.

**Right-of-way:** Land, property, or property interest (e.g., an easement), usually in a strip, acquired for or devoted to transportation purposes.

**Road:** A facility that provides public or private access, including the driving surface and all other improvements (such as sidewalks, paths, landscaping, drainage pipes, etc.) inside the right-of-way. NOTE: “Road”, “Street”, and “Roadway” will be considered interchangeable terms for the purpose of this plan.

**Road Safety, Rehabilitation, and Retrofit Program:** A program that targets funds to capital improvements that are needed to meet current safety standards and to maintain existing, aging infrastructure in unincorporated King County.

**Rural cities:** Incorporated areas in the rural parts of King County whose local governments are involved in the region’s planning processes on an equal legal basis with the suburban cities and Seattle. The incorporated rural cities are Black Diamond, Carnation, Duvall, Enumclaw, North Bend, Skykomish, and Snoqualmie.

**Safety management system (SMS):** A system that integrates transportation safety and emergency services, law enforcement, and education into a single system for managing road and street safety. The primary goal of a SMS is to reduce the number and severity of roadway collisions, transportation-related injuries, and property damage.

**Seashore Transportation Forum:** A cooperative effort of elected officials and high-level representatives from the public and private sector that addresses common transportation issues in the Seattle/North King/South Snohomish County area. Seashore is one of three subarea transportation forums coordinated by the King County Department of Transportation.

**Selective Traffic Enforcement Program (STEP):** A program that provides traffic law enforcement on major arterials throughout unincorporated King County. STEP is coordinated between the Road Services Division and the King County Sheriff’s Office.

**Scenic byway (or Byway):** A designated transportation route that provides an enjoyable experience for travelers and is associated with significant natural and cultural resources.

**Scenic resources:** Landscapes or vistas, natural or built, that are aesthetically appealing and viewed from a point of reference.

**Single occupancy vehicle (SOV):** Motor vehicle with only occupant.

**South County Area Transportation Board (SCATBd):** A cooperative effort of elected officials and high-level representatives from the public and private sector to address common transportation issues in south King County. SCATBd is one of three subarea transportation forums coordinated by the King County Department of Transportation.

**State Environmental Policy Act (SEPA):** The Washington State environmental review process administered by King County in conjunction with the Washington State Department of Ecology.

**Stewardship:** The act of assuming responsibility for the protection, enhancement, and conservation of the natural, scenic, cultural, historic, archeological, and recreational resources of one's environment.

**Traffic calming:** Traffic control measures such as traffic circles, elimination of center striping, and on-street parking that tend to reduce the speed of traffic.

**Traffic control center:** A system of remote traffic device control, video surveillance, and real-time data collection that allows traffic engineers to remotely and quickly review traffic conditions and provide current and accurate information about those conditions to other agencies and to the public via the Internet and variable message signs. Information collected at traffic control centers also helps staff members identify problems as they occur and make changes to traffic signal systems that result in better traffic flow and less congestion.

**Traffic signal interconnection:** The adjustment of the amount of traffic signal green time for each street and coordination of operation between each traffic signal to maximize traffic flow and minimize delay. Adjustments are based on real-time changes in demand.

**Transit Capital Improvement Program:** The Metro Transit Division's six-year program of capital projects for transit.

**Transit supportive development (or transit oriented development):** A mixed-use community or neighborhood surrounding a transit station, stop, or route that is designed to encourage transit use and pedestrian activity. It usually is developed with sufficient population density to support transit service, a mix of uses within walking distance of one another, and pedestrian-oriented design characteristics.

**Transportation adequacy measure (TAM):** The county's method for measuring the level-of-service performance of its transportation system; a calculated index of the quality of transportation experienced by travelers.

**Transportation Certificate of Concurrency:** An official notice issued to a developer by the King County Department of Transportation indicating whether there is adequate capacity on the transportation system to accommodate the forecast traffic associated with the proposed development. It is required as part of the development review process to show that adequate transportation facilities are available to serve growth.

**Transportation Concurrency Management System:** A system established by ordinance to assure that adequate transportation facilities are available to meet the requirements of new development in King County. It requires transportation improvements or strategies to be in place at the time of development or financial commitments to be made to complete the improvements or strategies within six years.

**Transportation corridor:** A broad geographical band following a general directional flow connecting major sources of trips. It may contain one or a number of streets, highways, and transit route alignments.

**Transportation Needs Report (TNR):** The King County long-range transportation capital needs list and the transportation capital facilities element of the King County Comprehensive Plan.

**TransValley Area Study:** A study conducted through a partnership between King County; the cities of Kent, Renton, SeaTac, and Tukwila; the Port of Seattle; the Puget Sound Regional Council; and the Washington State Department of Transportation that identifies transportation solutions on a number of priority corridors in south King County.

**Transportation demand management (TDM):** Strategies and actions undertaken by government, transit agencies, and other organizations to reduce demand on the transportation network. TDM usually focuses on reducing single-occupant vehicle use or drive-alone commuting. Examples include strategic provision of transit services and park-and-ride lots, downtown vehicle parking restrictions, and encouragement of alternative transportation modes such as bicycling and walking..

**Travel demand forecasting model:** Computer model used to predict the impacts of various development patterns, policies, and programs on future traffic volumes in King County.

**Unincorporated area:** An area not within any city and under the jurisdiction of King County.

**Unincorporated Area Councils (UACs):** Councils representing the residents, business owners, and property owners in each of six unincorporated areas in their dealings with the government of King County and other entities with respect to issues affecting them and their property. The six UACs are: Four Creeks, Greater Maple Valley, North Highline, Upper Bear Creek, Vashon-Maury Island, and West Hill.

**Urban growth area (UGA):** The area designated by a county pursuant to the State of Washington Growth Management Act to accommodate 20-year growth projections. As generally defined in state law, such areas are those within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature.

**Vehicle mix:** The percent of vehicle types, e.g., automobiles, trucks, recreational vehicles, buses, etc., that comprise traffic flow.

**Volume to capacity (V/C) ratios:** The ratio of traffic flow volume (number of vehicles) to the vehicle carrying capacity of a road facility.

**WSDOT:** Washington State Department of Transportation.